

THE CHARLESTON, WEST VIRGINIA, CHEMICAL SPILL

(113-53)

FIELD HEARING
BEFORE THE
COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES
ONE HUNDRED THIRTEENTH CONGRESS
SECOND SESSION

FEBRUARY 10, 2014 (Charleston, West Virginia)

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**Committee on Transportation and Infrastructure
U.S. House of Representatives**

Bill Shuster
Chairman

Washington, DC 20515

Nick J. Rahall, III
Ranking Member

Christopher P. Bertram, Staff Director

February 7, 2014

James H. Zeis, Democrat Staff Director

SUMMARY OF SUBJECT MATTER

TO: Members, Committee on Transportation and Infrastructure
FROM: Staff, Committee on Transportation and Infrastructure
RE: Field Hearing on “The Charleston, West Virginia Chemical Spill”

PURPOSE

On February 10, 2014, at 9:00 a.m., at the Kanawha County Courthouse, in Ceremonial Courtroom 4, Charleston, West Virginia, the Committee on Transportation and Infrastructure will meet to examine the circumstances behind, and the response to, the accidental release of chemicals into the Elk River near Charleston, West Virginia by Freedom Industries, Inc., which contaminated the water supply for Charleston and surrounding counties.

The Committee will receive testimony from representatives of West Virginia American Water, the West Virginia Department of Environmental Protection, West Virginia Division of Homeland Security and Emergency Management, West Virginia Department of Health and Human Resources, Cabell County Office of Emergency Services, Kanawha County Office of Homeland Security and Emergency Management, and the U.S. Chemical Safety Board.

BACKGROUND

The Chemical Release

On the morning of January 9, 2014, the West Virginia Department of Environmental Protection (WVDEP) received a call complaining of a licorice odor in the air around Charleston, West Virginia. Responding to the call, WVDEP dispatched two air quality inspectors who traced the odor to a tank farm owned by Freedom Industries, Inc. The Freedom Industries bulk storage distribution facility is located alongside the Elk River and approximately one and a half miles upstream from the potable water supply intake of the local water utility, West Virginia American Water. (See Figure 1 in the Appendix.)

Upon arrival at the Freedom Industries facility, the DEP inspectors observed a chemical substance in the secondary containment area surrounding aboveground storage tanks. Three of the tanks were storing a chemical known as 4-Methylcyclohexene Methanol (MCHM), a chemical produced by Eastman Chemicals, which was responsible for providing the Material Safety Data Sheet (MSDS), a document intended to inform workers and emergency personnel about procedures for handling or working with specific substances in a safe manner. WVDEP inspectors observed that this material appeared to have escaped the secondary containment (which is intended to catch spills) and was entering the Elk River. The inspectors noted that no one was trying to contain (or initially was even aware of) the chemical release. The inspectors contacted the WVDEP's Emergency Response Unit.

Shortly after noon that day, a Freedom Industries employee reported the release to the West Virginia Homeland Security and Emergency Management Department's Emergency Response Spill Hotline.

After further investigation, WVDEP Emergency Response and Kanawha County inspectors confirmed that the chemicals had, in fact, escaped the secondary containment, leading them to shut down the site. They instructed Freedom Industries to immediately take all necessary measures to contain, recover, and remediate the material that had escaped the aboveground storage tank and the secondary containment structure. WVDEP officials further instructed Freedom Industries to empty the three tanks that were identified as containing MCHM and move that material to a separate site that had appropriate secondary containment structures, as well as to identify the contents of the 11 other storage tanks located on the site. The company was also required to submit a corrective action plan that would include steps to clean up contaminated soil and groundwater.

By the early afternoon, the water utility recognized that its water supply was about to become contaminated as a result of the chemical plume migrating downstream from the spill site. In response, the utility turned on its activated carbon filters (mistakenly believing that the carbon would treat the MCHM). Shortly thereafter, West Virginia American Water notified its customers, via Twitter, that its treatment teams were closely monitoring the chemical spill.

Later that afternoon, the water utility notified the West Virginia Department of Health and Human Resources (WVDHHR) that the chemical had entered its system, and, recognizing that the steps it had taken to address the contamination were unsuccessful, the utility alerted WVDHHR that would be issuing a do-not-use water alert. Around this time, the WVDEP also began receiving notices that citizens were reporting odor and taste issues with their residential water supplies.

By late afternoon, state officials began informing media and the public of plans by West Virginia American Water to issue a do-not-use water alert to affected customers in Kanawha, Cabell, Boone, Putnam, Lincoln, Logan, Clay, Roane, and Jackson counties. The Governor then declared a State of Emergency for affected counties and the water utility issued its alert. The President approved a federal emergency declaration for West Virginia later that night.

Earlier in the day, Freedom Industries had begun emptying the leaking tank in response to the inspectors' orders, and moving the remaining MCHM to a storage facility in Nitro, West Virginia, about 10 miles from the Charleston site. But when West Virginia inspectors examined the alternative facility, they reportedly cited the company for five violations that could have resulted in another chemical leak. The site's secondary containment was deteriorated or nonexistent, according to a report prepared by the WVDEP, describing problems similar to those that caused the original release of the chemical into the Elk River.

Subsequent to the spill, the WVDEP has had an ongoing presence at Freedom's Elk River site, and is directing the containment and remediation measures with the assistance of officials from the State and local Homeland Security offices, the Coast Guard, U.S. Environmental Protection Agency, and the U.S. Chemical Safety Board.

Freedom Industries originally estimated that approximately 2,000 to 5,000 gallons of the chemical MCHM had leaked into the Elk River. The company has since released a new estimate that closer to 10,000 gallons of the chemical leaked from the tank. An undetermined amount of MCHM actually entered the river. It was reported that approximately 1,272 gallons of the substance was recovered from the river.

On January 21, 2014, Freedom Industries reported to authorities that a second chemical -- a mixture of polyglycol ethers (PPH) -- was part of the January 9th chemical release. Freedom Industries officials explained that, though adding PPH to their MCHM mixture had been a previous practice, the company had, for a time, stopped including the PPH. Company management, however, discovered, subsequent to the leak, that the company had resumed adding PPH to the mixture, at approximately five percent. It was not clear how much of that material leaked out of the tank or how much reached the river.

After finding out that Freedom Industries failed to report the presence of PPH in the January 9th leak, the WVDEP required Freedom Industries to disclose all chemicals that had possibly leaked into Elk River. Freedom Industries responded to the WVDEP that no further chemicals had leaked besides MCHM and PPH.

Impact on Water Supply

As a result of the January 9th spill, an unknown amount of the chemical plume in the river was drawn into the American Water Company's supply intake, contaminating the water supply and causing State and federal agencies to declare a state of emergency and order over 300,000 residents in nine counties, including the City of Charleston, not to drink or use tap water for any purpose other than flushing toilets.

The West Virginia National Guard was deployed to help bring in "water buffaloes" (portable tanks with clean water) to provide citizens with drinking water. In addition, the Federal Emergency Management Agency (FEMA) responded by delivering more than a million liters of water from its distribution centers in Cumberland and Frederick, Maryland, to the area. The West Virginia National Guard assisted FEMA in distributing bottled drinking water to emergency services agencies and citizens in the affected areas.

Ongoing testing of the water supply downstream was initiated after the chemical release. On January 12th, officials said tests conducted at the water treatment plant showed little to no traces of contamination, allowing testing of the water distribution system to move to the next phase. The water company planned to begin lifting the do-not-use ban by zones, starting in downtown Charleston and three other “priority zones” that include the City’s four major hospitals and 25,000 customers who use more than half of the company’s water. The water-use ban gradually was lifted over the next several days zone-by-zone as the concentrations of the chemicals decreased toward non-detectable levels.

On January 15, 2014, two days after the ban was lifted for the initial priority zones, the U.S. Centers for Disease Control advised that pregnant women may wish to use other sources of drinking water until testing found no trace of MCHM in the water. The final zone was lifted from the do-not-use ban on January 18, 2014. State, local, and water utility officials used CDC recommendations in determining when the ban on the use of tap water could be lifted.

In the days following the spill, the chemical substance plume in the Elk River continued to migrate downstream, into and down the Kanawha River, ultimately to the Ohio River. Even though the plume became more diluted as it moved downstream, water suppliers along the Kanawha and Ohio Rivers monitored for the chemical plume so they could respond in an appropriate fashion, to prevent potential contamination of their water supply systems.

The U.S. Chemical Safety Board has sent an investigative team to Charleston to investigate the incident and determine what happened and how to prevent a similar incident from occurring in the future.

Freedom Industries Facility

The Freedom Industries chemical storage facility, which is perched on a steep bank of the Elk River, has 14 tanks, built in the 1940s and 1950s. (See Figure 2 in the Appendix.) The tank that leaked is about 20 feet high and sits on a concrete pad surrounded by dirt. Encircling that tank and some others is a containment wall with various sections consisting of either concrete, cement, or cinder block. The containment structure dates back to the time when the facility was owned by Pennzoil and was part of that company’s approved Spill Prevention, Control, and Countermeasures plan.

The facility was owned by Etowah River Terminal LLC, a liquid bulk storage and distribution company. Freedom Industries acquired the Charleston storage tank facility in December 2013, when it merged with Etowah River Terminal, though the companies had long been associated.

Freedom Industries holds a National Pollution Discharge Elimination System (NPDES) Multi-sector General Water Pollution Control Permit issued by the WVDEP. WVDEP is approved under the Federal Water Pollution Control Act (commonly known as the Clean Water Act (CWA)) to implement the NPDES Permit Program in West Virginia. The permit covers discharges of stormwater associated with industrial activity. The facility’s NPDES permit does

not authorize the discharge of the chemicals that leaked into the river, so the discharge was a violation of the CWA.

The permit requires the facility's operators, among other things, to report, to the West Virginia Spill Alert System, spills and accidental discharges that occur at the facility, including any noncompliance that may endanger health or the environment immediately after becoming aware of the circumstances. Freedom Industries called the emergency spill line to report the chemical leak, but there is some question as to how cooperative Freedom Industries initially was with WVDEP and Chemical Safety Board officials.

Freedom Industries is facing multiple class-action lawsuits from residents and businesses seeking damages, as well as investigations by the state, the U.S. Attorney's office, and the U.S. Chemical Safety Board, all stemming from the January 9th spill. In response, Freedom Industries filed a Chapter 11 petition on January 17th with the U.S. Bankruptcy Court in the Southern District of West Virginia, freezing the numerous lawsuits against the company.

Freedom Industries reached a preliminary bankruptcy court deal for up to \$4 million in credit from a lender to help continue operations. The deal reportedly lets the company continue paying its employees in the short term, and also continue paying costs for environmental remediation, critical day-to-day administrative expenses, and major vendors. The bankruptcy proceedings are expected to continue.

WITNESSES

PANEL I

Hon. Joe Manchin
D-West Virginia
U.S. Senate

PANEL II

Dr. Rafael Moure-Eraso
Chairman
U.S. Chemical Safety Board

Mr. Mike Dorsey
Director, Homeland Security and Emergency Response
West Virginia Department of Environmental Protection

Mr. Jimmy Gianato
Director
West Virginia Division of Homeland Security
and Emergency Management

Dr. Letitia Tierney
Commissioner and State Health Officer
West Virginia Bureau for Public Health

Mr. Gordon Merry
Director
Cabell County Office of Emergency Services

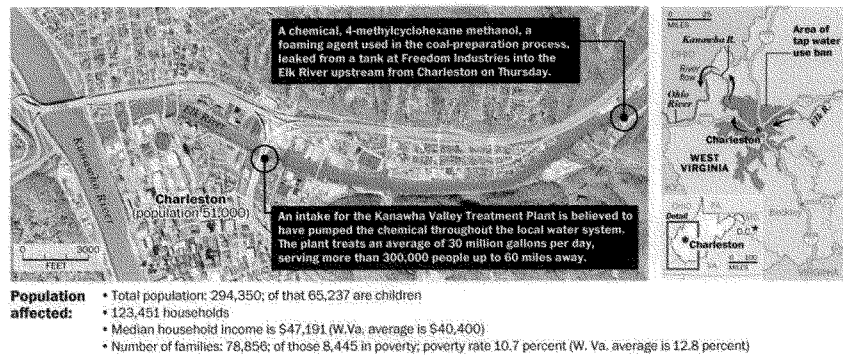
Mr. Dale Petry
Director
Kanawha County Homeland Security
and Emergency Management

Mr. Gary Southern
President
Freedom Industries

Mr. Jeff McIntyre
President
West Virginia American Water

APPENDIX

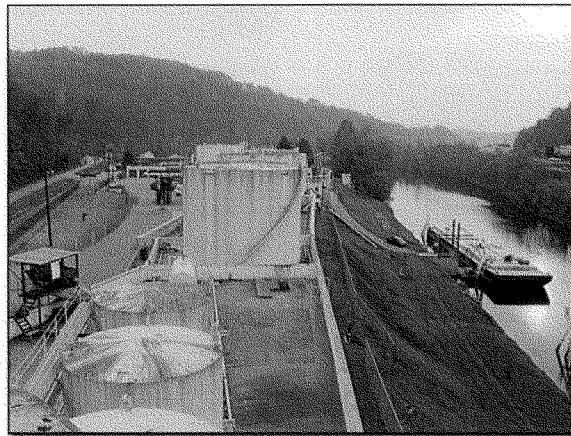
Figure 1.



Source: Google Earth and the U.S. Census Bureau. Gene Thorpe/The Washington Post. Published on January 10, 2014, 7:45 p.m.

http://www.washingtonpost.com/national/health-science/chemical-spill-threatens-thousands/2014/01/10/638b739e-7a59-11e3-b1c5-739e63e9c9a7_graphic.html

Figure 2.



<http://www.etowahriverterminal.com/default2.htm>

THE CHARLESTON, WEST VIRGINIA, CHEMICAL SPILL

MONDAY, FEBRUARY 10, 2014

HOUSE OF REPRESENTATIVES,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
WASHINGTON, DC.

The committee met, pursuant to call, at 9:07 a.m., in Ceremonial Courtroom 4, Kanawha County Courthouse, Charleston, West Virginia, Hon. Bill Shuster (Chairman of the committee) presiding.

Mr. SHUSTER. The committee will come to order.

I want to welcome everybody here today to Charleston, West Virginia. Thanks for all coming out, especially our panel of witnesses today.

Our first order of business is, I would like to ask unanimous consent that Senator Manchin be allowed to sit in the hearing today and participate in the questioning.

Without objection, so ordered.

Senator, welcome to the Committee on Transportation.

Senator MANCHIN. Thank you, Mr. Chairman. I appreciate it very much.

Mr. SHUSTER. We are pleased to welcome our distinguished witnesses today, starting with Rafael Moure-Eraso. I started off telling him I apologize, in case I butchered that. He is Chairperson of the U.S. Chemical Safety Board.

Welcome.

Mr. Michael Dorsey, chief of the Homeland Security and Emergency Response for West Virginia Department of Environmental Protection; Jimmy Gianato, director of West Virginia Division of Homeland Security and Emergency Management; Dr. Letitia Tierney, who is the commissioner of the Bureau of Public Health, West Virginia Department of Health and Human Resources, and State health officer; Gordon Merry, who is director from Cabell County—which I guess, Nick, that is in your district—Office of Emergency Services; Dale Petry, who is the director of the Kanawha County Department of Homeland Security and Emergency Management; and Jeff McIntyre, the president of West Virginia American Water.

I want to thank, also, Mrs. Capito for requesting an important hearing and hosting the committee here in her hometown of Charleston.

I also want to thank Ranking Member Rahall for working with us on this hearing and ensuring that we understand how important this issue is to him and his constituents as well.

And, again, I welcome Senator Manchin for being here today and participating.

And also to Congressman Daniel Webster, a native of West Virginia, now representing a district in Orlando, Florida. Welcome home, Daniel.

It is critically important for this committee to be here today to hear from the folks who have been on the ground since the spill occurred, and to gain an understanding of what has happened in this incident.

I can only imagine how difficult it has been for the residents of this region over the last month. The uncertainty, the unanswered questions, must be overwhelming at times.

As Americans, we all should feel safe to drink the water that comes out of our faucets. We should be able to take a shower without worrying about what is in the water. And we should have confidence that our Government leaders are doing everything in their power to ensure the safety of the water supply. And that is why we are here today.

The past 4 weeks have, no doubt, been a roller coaster ride for everyone here in this region. I know that people are concerned, frustrated, and looking for answers.

Representatives Capito and Rahall and Senator Manchin have made it very clear how important it is for us to be here on the ground to see and hear firsthand, to truly understand what is happening here.

We are here to get firsthand accounts of what has happened, what went wrong, when went right, what needs to be improved. We need to focus our attention and work to find solutions for the future, to hear directly from those who were at the spill site when it first became clear what was happening, and to hear from those who have been working day and night since then to help clean up and protect those who live here.

Again, I want to thank everyone who has taken their precious time to be here today. I want to, again, thank our witnesses for joining us.

Before I go, as I had to explain to Senator Manchin, who is in the Senate, in the House, we have different rules. I pointed out in the House, we have a 5-minute rule, so I would ask for witnesses to keep your opening statements to 5 minutes. I am quick on the gavel. You will hear me tap first when you get over. But, again, to move things along, and to make sure everybody is heard, we want to make sure that we get through, so 5 minutes on the opening statements.

Your full statements will be in the record. I know you have some lengthy pieces of information, which will be in the record.

And again, to my colleagues, if they keep their opening statements to 5 minutes and then we will go into questioning. The questioning rounds will be 5 minutes. If we need more, we will certainly do more.

With that, I would like to recognize the ranking member, Mr. Rahall, for a statement.

Mr. RAHALL. Thank you, Mr. Chairman.

I join with my colleagues on this dais in welcoming you to West Virginia and thank you for taking the time to be with us today so

that we can be on the ground in the area where it is especially important that we hear from the families whose lives and livelihoods have been disrupted.

Yesterday marked 1 month since the chemicals leaked from a storage tank at Freedom Industries into the Elk River. One solid month since the spill, yet still—and rightly so—there is a lingering worry among the people of this area. There is a lingering mistrust of what they hear.

Some of that clearly stems from a lack of accurate information at the start, most of which can be traced directly to a financially troubled business with deteriorating facilities and critically lax safety standards.

When State DEP officials arrived at the Freedom Industries site following a trail of strong licorice scent, workers there didn't even know they had a leak. When workers were shown the pooling chemical and told to report the leak, they resisted.

When they finally did report the leak, they claimed the chemical was not spilling into the river. Wrong.

First responders, the water company, public health officials, all thought they were dealing with one chemical based on information obtained from the company—information that was wrong.

Mr. Chairman, there were distressing blind spots and errors long before this spill. But on January 9, confronted with this disaster, a lot of people tried to do the right thing. A lot of people are still trying to do the right thing. Some of them are here with us today, and we will hear their testimony.

They have been the target of criticism and anger. And, yet, they came here today to answer and re-answer and re-answer questions and take their lumps.

I think it speaks volumes that the one entity that is not here today—is not here—the one empty seat we will have at that witness table, if there was room for that empty seat, belongs to the one entity at the epicenter of all of this, the one who totally blew it and then gave the bad information on which every effort to respond to the spill was built.

Mr. Chairman, there is an odor emanating from Freedom Industries, and it is not licorice. We cannot legislate morality into the billionaire corporate boardrooms where shell game playing abounds.

I share the worry and frustration that I see in the faces all around this room. I understand the shaken confidence.

Were there mistakes made? Yes. Are there loopholes in the law that must be closed? Yes.

As you have stated, Mr. Chairman, we are here to listen and learn and do all that we can to help prevent this type of crisis from recurring.

I have chosen not to endorse legislative proposals yet, until after this hearing and hearing first directly from those at this hearing to ensure that our efforts in Congress are as thorough as possible, and that the Federal Government will not place demands from on high, but work with our State and local governments to ensure that any new laws work together to eliminate loopholes.

A cloud of suspicion and fear may be hanging over this region for some time. But, speaking as a West Virginian, I hope we can channel these energies into positive change for our State.

Above all, the communities, businesses, and families deserve definite answers. People have a basic right to know, and Government has a fundamental obligation to inform the public whether or not their water supplies are safe.

In conclusion, Mr. Chairman, in a Congress that is so often divided, you have not let party differences stand between us and working to address the needs of the people we serve. I thank you, again, for your interest in the families in this area and for taking the time to be with us today.

And I believe you have already done this, but if not, I would ask unanimous consent that the record be open for 30 days to allow people who want to submit their testimony to us will be made part of the record.

Mr. SHUSTER. Without objection, so ordered.

I now recognize Mrs. Capito.

Mrs. CAPITO. Thank you, Mr. Chairman. Thank you for bringing the committee to my home county of Kanawha, and Charleston. I am pleased to be here with my colleagues.

The chemical spill occurred just a few miles from where we sit, and it had a devastating effect on 300,000 people in a 9-county region.

Small businesses were forced to close. A lot of folks went without paychecks. And residents went without potable water.

Our community is angry, anxious, and we need answers to how the spill occurred, the health effects, and how we can help prevent it from happening again. That is what we are here today for.

Last week, 14 schools in Kanawha County reported smelling the odor. Three of those the schools were closed as a result, and several illnesses were reported. Those events demonstrate that, a month after the spill, the effects still continue.

I live in Charleston, and I use the water myself. Like everyone in this room and everyone in this community, we just want to have the confidence that the water coming out of our faucets is safe, and our families are safe as well.

Many West Virginians lack that confidence today. I think "confidence" is going to be the word we are going to be hearing quite a bit.

Unfortunately, we won't be able to answer questions, as my fellow Member from West Virginia talked about, from one of the relevant parties today. The president of Freedom Industries was invited to appear before the committee. We gave them the opportunity to answer this committee's questions, questions that residents across this community have also been asking, and to explain its many failures that have hurt so many families and businesses.

Unfortunately, he chose not to be here today to answer for what his company has done. I find that extremely telling.

If he were here today and had the courage to come, I would have asked him this: When did you learn that a chemical was leaking from a tank at your facility? Why did it take so long to report that spill? How did you not know for 12 days, or report, that a second

chemical was a part of the mixture? And do you accept any responsibility for the catastrophic harm you have caused our community?

Their decision not to testify today compounds its gross misconduct, and it is an absolute affront to every person impacted by the spill.

With that, I want to thank all the witnesses that are here today, not only for what they are doing today, but for what they have done over the past month. This will help us gain a better understanding on what happened on January 9.

We need to learn from West Virginia and American Water when it learned of Freedom's spill, how it made the decision to keep the water flowing, and why the company did not know in advance of the spill what types of chemicals were stored in tanks just upriver from the water intake.

We need to learn from the local responders, and they did a wonderful job—and thank you so much—how they mobilized and what we can do to improve their situation.

From the Division of Homeland Security, we need to know the current status of water testing in public facilities across the impacted area, and the State's plan for targeted—I noticed this is a discussion of late—in-home testing around the region.

Many citizens are concerned about the flushing protocols, and we need to know the successes and failures in cleaning up the water system.

From the DEP, and we need to learn about the initial response to Freedom Industries' site, the agency's plan to inspect similar facilities, and the implementation of both State and Federal environmental laws.

And from the Department of Health, we need to learn how testing protocols and safety standards were established, and make sure that people are provided with accurate and timely information.

One of the scariest parts of this incident, I think, occurred on Thursday, when the CDC advised that pregnant women may wish to avoid the water until all traces of MCHM were removed after first announcing that a universally applicable safe standard had been reached.

Senator Manchin and I wrote to the CDC asking for testing protocols and about the agency's confidence in the health impact study, but their letter was severely lacking in the details that we needed.

We invited the CDC to come here today. They declined that invitation, but they are working in an advisory role in assisting the State of West Virginia. We can learn from participation of State officials in settling the no-health-impact standards.

Finally, from the Chemical Safety Board, we need to gain perspective on how this occurred, and how we can prevent it from happening again.

To spur development of State programs, the State has done a great job, but I will be introducing the Ensuring Access to Clean Water Act when I return to Washington this evening. This bill requires the inspection of aboveground storage tanks like the one that leaked at Freedom Industries; creates standards for the oversight of chemical storage facilities; and ensures that water utilities

are given information about chemicals stored upstream, together with a plan on how to address emergency situations.

The West Virginia Legislature is considering legislation to address this issue, and Senator Manchin has proposed legislation that is similar to the bill I will introduce tonight.

I want to thank everyone for coming, and I look forward to your testimony, and also the opportunity to ask those questions that I mentioned.

Thank you.

Mr. SHUSTER. Thank you.

And now with that, Senator Manchin is recognized for 5 minutes.

TESTIMONY OF HON. JOE MANCHIN III, A U.S. SENATOR FROM THE STATE OF WEST VIRGINIA

Senator MANCHIN. Thank you, Chairman Shuster, and Ranking Member Rahall, Congresswoman Capito, and Congressman Webster for holding this hearing today to give it the national attention it deserves.

I do understand the rules of the House, and I will more than abide by them. And I appreciate you having me as part of this. Bipartisan, bicameral—we need more of this. We really need do. And it sets a good example for all of us, so thank you.

On January 9, as has been said, a month ago yesterday, thousands of gallons of crude MCHM leaked from a storage tank into the Elk River contaminating the drinking water of 300,000 West Virginians. In the immediate aftermath and the days since, I have been in continual contact with the CDC and the EPA, trying to assist and help the State. I know the State has been in contact with them also, and I appreciate that. We will be hearing your testimonies on that today also.

The CDC has determined that the water is appropriate—and I say the word “appropriate”—to drink. I am not sure of the definition of “appropriate,” but I am trying to get into that more, and I am sure you will be able to clear that up today also.

They say levels are below the 1 ppm—and I know we have questions about that—benchmark. And then the nondetect level is supposed to be 10 ppb, which is 100 times more stringent than 1 ppm.

I am using, I am personally using, we have a little townhouse here, I am personally using the water as I normally would use it. But I know a lot of don’t people feel that way. And I believe that the people, and I believe the State will accommodate them having the ability to have it tested. I believe that will all happen. I really do.

And with that being said, in our State, we have always done hard work. We have worked hard. And we continue to work hard. We are hardworking people to produce the energy and chemicals that power this country. But that cannot come at the cost of access to safe and clean drinking water or to the safety and confidence of the people of West Virginia.

We have always said, if you can’t do it right, don’t do it. If it is not safe, don’t do it.

But with that, we think there is a balance between the environment and the economy that can be found, if we all have a desire to do that.

The spill should have never have happened. There is no excuse for it. It really shouldn't have happened. And as Congress, it is our responsibility to do everything we can to keep it from happening again, not just in West Virginia, but anywhere in the United States of America.

This is a wakeup call for this country. We were on the front end of this, but it is a wakeup call for the country.

That is why I work with Senator Boxer, who is the chairman of the Environmental and Public Works Committee, to develop the Chemical Safety and Drinking Water Protection Act. It basically does things that we thought were already being done. We thought that all aboveground storage probably was being tested and checked, not knowing that there was no laws on the book—if it was not a hazmat material, that it didn't have to be.

And really, the EPA or the DEP didn't have any authority or power to go into these areas and do the testing. And I talked to Speaker Boehner about that. He is committed to helping and working with us. And our colleagues on both sides of the aisle are committed to fixing this. So I am very appreciative of that.

This bill sets minimum Federal standards that chemical facilities must meet, including construction and leak detection requirements, fail-safe containment standards, and the development of emergency response plans. Our bill also requires that companies meet financial responsibility requirements. Taxpayers should not be forced to pay for the monetary damages incurred from this incident or any other chemical spill.

Additionally, companies must inform the State, the EPA, and local water systems of the chemicals they store. However, that information is helpful only if we have adequate health and safety data on these chemicals.

That is why I am also cosponsoring and totally committed to the Chemical Safety Improvement Act, which would, for the first time in 42 years—think about this; 1976 is the last time we ever tried to find out what chemicals we are using and how it affects humans.

There are 84,000 chemicals used by Americans every day in every form, and the extremely outdated Toxic Substance Control Act is 1976. It is unbelievable.

Under the Chemical Safety Improvement Act, States should request and could request that EPA prioritize the testing of specific chemicals, including those held near waterways. Even if they are not a hazmat or determined to be a hazmat material, everybody in every State is responsible for identifying any possibility and also having the CDC and the EPA test at the highest levels as if they were toxic.

And for the chemicals like MCHM, the overwhelming lack of health and safety data is one of the criteria for designating a chemical as high priority.

The bottom line is that no West Virginian or American should have to worry about the contamination of their water supply from a chemical spill, and I will do everything, working with my colleagues, to enact legislation to protect safe drinking water.

These two bills would go a long way in ensuring that every American has access to safe drinking water, and that if, God forbid, an incident like this occurs again, we have the tools to respond as

quickly and as effectively as possible. It is unconscionable to think that we did not know sooner than we did.

And today I am asking all West Virginians, the EPA, the CDC, and West Virginia DEP, and all of us who are involved and could be involved and should be involved, to join me and my colleagues in pledging to make sure that we come out of this bigger and better. The water in West Virginia should be the cleanest and safest in America.

I want to thank you, and that should be our goal today. Thank you.

Mr. SHUSTER. Thank you, Senator.

And with that, I recognize Mr. Webster for an opening statement.

Mr. WEBSTER. Thank you, Mr. Chairman, and thank you for hosting this forum. I think it is very, very important for this area.

I am from Orlando, Florida, now, but I am a fifth generation West Virginian. I was born here in Kanawha County close by, at St. Francis Hospital. I have a lot of relatives here. I ate dinner with five of them last night, two get their water from St. Albans and had no problem. Three did not, and they are concerned. They are still drinking bottled water, even though it is supposedly OK to not do that. They are just afraid.

And I would imagine there are a lot of citizens out there who are afraid, so I appreciate this opportunity.

My dad's family was from Winfield. They moved there in 1862. My mom was from a place in Roane County called Rush Fork and Green Creek. I have no idea where that is, but it is somewhere. And both were longtime farmers. Both depended on the water here.

It is an important commodity. It is the lifeblood of our community. And so I appreciate just the opportunity to be here and to have an opportunity to participate in this.

This also, certainly, has nationwide implications, and there are some things here I hope we will learn to prevent this from happening in other places in the country.

Thank you, Mr. Chairman.

Mr. SHUSTER. Thank you, Mr. Webster.

Before I get to the witnesses, I might add that I am from Pennsylvania. My district is western Pennsylvania, parts of Greene County and Fayette County, which border West Virginia. And growing up in Bedford County, very close to the West Virginia border. So as I like to tell my colleagues, Mr. Rahall and Mrs. Capito, we are kissing cousins in western Pennsylvania to West Virginia. And good, hardy, hardworking people in western Pennsylvania and West Virginia.

So again, I just wanted folks to know that I'm not from the other part of Pennsylvania—Philadelphia, as we call it.

So with that, again, I encourage the witnesses to keep to 5 minutes, because I think the really important part of this is the questioning. Hopefully, we can have a couple rounds of that.

And we will start to my left with Dr. Moure-Eraso.

Before it is all over, I will get it down.

Go ahead, Doctor. You are recognized.

TESTIMONY OF RAFAEL MOURE-ERASO, CHAIRPERSON, U.S. CHEMICAL SAFETY BOARD; MIKE DORSEY, CHIEF, HOMELAND SECURITY AND EMERGENCY RESPONSE, WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION; JAMES A. GIANATO, DIRECTOR, WEST VIRGINIA DIVISION OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT; LETITIA E. TIERNEY, M.D., J.D., COMMISSIONER, BUREAU FOR PUBLIC HEALTH, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, AND STATE HEALTH OFFICER; GORDON MERRY, DIRECTOR, CABELL COUNTY OFFICE OF EMERGENCY SERVICES; DALE A. PETRY, DIRECTOR, KANAWHA COUNTY DEPARTMENT OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT; AND JEFFREY L. MCINTYRE, PRESIDENT, WEST VIRGINIA AMERICAN WATER

Mr. MOURE-ERASO. Thank you, Chairman Shuster, and Ranking Member Rahall, also Congressman Webster and Congresswoman Capito, and Senator Manchin. I am honored to be here.

I am Rafael Moure-Eraso. I am the Chairperson of the U.S. Chemical Safety Board, or the CSB, from Washington, DC.

There are a few things that people here in West Virginia will never take for granted again, common acts, such as using tap water to prepare dinner for your family or drawing a bath for your child, and everyday activities that quickly became impossible for approximately 300,000 people on January 9, 2014.

It is clear to me, as Chairman of an independent Federal agency charged with investigating industrial chemical accidents, that urgent steps are required to significantly improve the safety of facilities that handle hazardous chemicals. The chemical sector is vital for our economy, yet potentially hazardous to those who live near the thousands of facilities that process or store these hazardous chemicals.

The CSB has 41 employees, half of whom are professional accident investigators with highly technical skills. Currently, the CSB has a four-member team in the field investigating this particular accident.

Heading the team and with me is the supervisory investigator, Johnnie Banks. And also with me today is Hillary Cohen, our communications director back there.

First, I think, it is important to discuss the history that the CSB has had investigating accidents in the Kanawha Valley. This is our third deployment to a major chemical accident in the valley.

In 2008, two workers were fatally injured at the Bayer CropScience chemical plant in Institute when a waste tank containing the highly toxic pesticide methomyl violently exploded.

Then in 2010, three incidents occurred in a 33-hour period at the DuPont Belle facility. There was a release of highly toxic phosgene, exposing a veteran operator and resulting in his death 1 day later.

Following the CSB's investigation into these two places, Bayer and DuPont, the board recommended that the county, working with the State, establish a hazardous chemical release prevention program to enhance safety and optimize emergency response.

The CSB recommended that the Health Department establish an industrial safety authority, paid for using fees assessed on the companies processing or handling potentially dangerous chemicals.

As an example, we cited the successful program in California's Contra Costa County, which has an equally dense industrial chemical base.

Although no regulatory program is 100 percent effective, in Contra Costa, the program has reported a dramatic decrease in serious incidents over the years without any adverse impact on employment or the business community.

State and local authorities in West Virginia tell us that they considered our recommendation but due to a number of reasons, including funding, it has not been adopted.

The CSB's previous recommendations aim at empowering a Government agency to determine just what poses a high hazard. Perhaps qualified inspectors would have considered aging chemical storage tanks located just upstream from a public drinking water treatment plant to be potentially "highly hazardous" and worthy of a closer look.

I am very encouraged by the recent efforts mentioned here of legislators, including Representative Capito and Senator Rockefeller and State Delegate Skinner, who are all seeking to have the CSB recommendations implemented to protect West Virginia residents and business.

I thank you all, and let's work together to get this done.

All of us here today are all too aware of the recent events that occurred at Freedom Industries. A significant amount of the chemical that we are discussing, MCHM, containing also the propylene glycol phenyl ether as part of it, was released in the Elk River, and eventually reached the Kanawha River.

Today, I am here to discuss some preliminary findings into the CSB's ongoing investigation.

In October 2013, at the request of the company, tank engineering and management consultants performed a review of the tank terminals located in Charleston and Nitro. The evaluation was conducted and approved by an American Petroleum Institute 653 and 570 certified inspector, who also has credentials as a National Association of Corrosion Engineer.

That review notes that the substances stored in tank 396 consisted of nonhazardous materials. And as we said before, this is a qualification. It is a legal statement. It doesn't reflect the problem that we are seeing here in the ground.

Mr. SHUSTER. Doctor, I am going to ask you wrap up.

Mr. MOURE-ERASO. OK, yes.

The CSB has determined that the secondary containment wall, which was composed of cinder blocks and surrounded tank 396, provided very little protection from a possible release.

Moving forward, the CSB will closely examine tank 396. We plan to complete a thorough internal inspection of the tank to determine the tank thickness, and we will examine design, materials of construction, inspection practices, and State and Federal oversight.

The team will also examine the response to the leak once it was discovered. And we will have information readily available for the public as the issue is developed. And we would like also to make recommendations about improvements to the Toxic Substances Control Act.

I would like to conclude by strongly commending Senator Manchin, Senator Rockefeller, and Senator Boxer for promptly introducing legislation aimed at safeguarding water supplies from chemical leaks.

We are making recommendations of inherently safe——

Mr. SHUSTER. Doctor, we will include that all in the——

Mr. MOURE-ERASO. We will continue coming to this community to keep you informed of the progress of our investigation.

Thank you.

Mr. SHUSTER. Thank you. Your full statement will be included in the record. And we will all have that.

Mr. Dorsey, you are recognized for 5 minutes.

Mr. DORSEY. Thank you, Chairman Shuster, members of the committee, Senator Manchin.

As one of the first State responders onsite, and as someone who is still involved in remediation of the site, I appreciate this opportunity to offer my perspective on the event, and offer a few thoughts on related issues.

After the release was discovered by investigators from the Department of Environmental Protection's Division of Air Quality, I was contacted by a supervisor and arrived at the site with a chemist from my staff at approximately——

Mr. SHUSTER. Mr. Dorsey, could you pull your mic closer to you?

Mr. DORSEY. Certainly.

Mr. SHUSTER. Thank you.

Mr. DORSEY. At this time, it was apparent that the MCHM, and as we later learned, propylene glycol phenyl ether, or PPH, was leaving the facility through a drain pipe that runs below the tank farm and leaking through a retaining wall that was part of the facility's secondary containment.

The drain pipe was leaking through a rusted bottom into an erosion ditch about 5 to 10 feet below the containment wall, and the material that was exiting through the wall was draining directly into a rubble-filled swale that is located where an old fire suppression intake had been located.

Company officials had, by this time, placed an absorbent boom at the point where material was leaking through the wall.

As we investigated the spill scene, we could see that the MCHM was entering the river from both on top of and below an ice shelf that extended approximately 10 feet from the shore into the river.

After reviewing the Material Safety Data Sheet for the MCHM, a water company official stated that he thought the problem could be addressed by adding additional activated carbon to the water plant filters.

I handed the investigation over to our enforcement group and left the scene at about 2:45 p.m.

It was not until about 4:20 p.m. that I started receiving calls detailing the larger water contamination problem. Since that time, remediation efforts have continued at the site.

Remediation activities at the site have included the installation of collection sumps in the tank area; interceptor trenches; and the aggressive management of offsite water, rainwater, and snowmelt. While these remediation efforts are ongoing and successful, a number of investigations are also taking place by State, Federal, and

private parties: The U.S. Chemical Safety and Hazard Investigation Board, the Federal prosecutor's office, the Office of the West Virginia Attorney General, the bankruptcy plaintiffs, and others. These investigations are, by and large, necessary, but they also slow remediation efforts in the vicinity of the tank that spilled the material. It is hoped that within a week all of the investigations will have reached a point so the tank area will be possible.

An interesting issue with MCHM and PPH is their relative lack of toxicity. The problems that the release caused are very real, and there is no doubt that the "do not use" order was the right thing to do. But there is relatively little data, because of the lack of toxicity, on the chemicals.

In a world where deadly chemicals such as methyl isocyanate, dioxins, and others grab all the headlines, little thought is given to those less toxic, but ubiquitous, chemicals that can wreak havoc with our lives like these chemicals have.

Neither of these chemicals is even considered to be hazardous materials by State or Federal laws.

The Toxic Substances Control Act of 1976 is a Federal law that was designed to serve as a safety net for chemicals that were not regulated by other programs. Due to lack of support, it has never fulfilled its responsibilities. Potentially harmful chemicals are not receiving the review and study they were meant to have.

Today, a bipartisan bill, the Chemical Safety Improvement Act, is struggling in the U.S. Congress. It is designed to address the shortcomings of TSCA and provide that safety net that is supposed to be provided by that law. The bill is not perfect. But it can be fixed, and it deserves to be fixed.

Of more immediate interest are bills currently moving through Congress and the West Virginia Legislature that will provide for the regulation of aboveground storage tanks, much as underground storage tanks are regulated. I see this as a complementary effort to the bill mentioned above.

Ensuring that aboveground storage tanks are structurally sound and have adequate secondary containment seems like simple common sense today. But before the Freedom Industries release, the general thought process was that if the material in a given tank wasn't regulated by any of the multitude of State or Federal programs, it was probably harmless to both public health and the environment. The fallacy of that type of assumption is clear now.

A positive note in this unfortunate episode has been the working relationships between various State and Federal agencies. In particular, the relationship between DEP and the Environmental Protection Agency has been one of mutual respect and cooperation. Decisions have been made cooperatively, allowing the State and Federal Governments to speak with one voice to the public, as well as the responsible party.

The Freedom Industries release caused approximately 300,000 people to be without water. People became ill. Pregnant women were advised not to drink the water. But it could have been much worse. There are far more toxic and equally unregulated chemicals in tanks throughout the country.

Let this incident be a wakeup call for the entire Nation.

Thank you.

Mr. SHUSTER. Thank you, Mr. Dorsey.

And with that, Mr. Gianato is recognized for 5 minutes.

Mr. GIANATO. Good morning, Mr. Chairman, Congressman Rahall, Congresswoman Capito, Congressman Webster, and Senator Manchin. Thank you for the opportunity to be here this morning to speak with you.

At approximately 4:50 p.m. on January 9, I received a call from the West Virginia Department Health and Human Resources Bureau of Threat Preparedness, advising that in 10 minutes there would be a call to discuss an imminent announcement by West Virginia American Water that they were going to issue a "do not use" order due to chemical contamination of their water treatment facility and system.

As a result of our prior planning, we immediately knew that the loss of the water facility would impact a large number of hospitals, schools, nursing homes, residences, and businesses. The West Virginia American Water treatment facility and distribution system serves commercial and residential customers in a nine-county region.

The interdependencies associated with this loss include hotels, restaurants, dairies, as well as farming facilities and many other industries that depend on potable water to operate safely.

Governor Tomblin immediately declared a state of emergency for the nine counties impacted, and the State Emergency Operations Center was fully activated.

Based on media and law enforcement reports, after the order was broadcast, citizens were rushing to stores to purchase water, and the stock was quickly being depleted.

Governor Tomblin requested an emergency declaration from FEMA that was granted seeking support from the Federal Government.

Over the next days and weeks, FEMA would provide over 456 trailers of water, which is equivalent to over 8.6 million liters, and over 100,000 boxed meals, which were essential to supplement water purchased by the State and received from the numerous donors.

The division requested the activation of the West Virginia National Guard 35th Civil Support Team. This team, which is a key resource to the State, is a full-time federally funded State asset specializing in weapons of mass destruction and chemical, biological, radiological, nuclear explosive response. The men and women of this unit have been deployed for this incident since the initial hours, and they continue to serve.

Over the course of the event, six additional civil support teams from neighboring States have assisted.

Initial testing was performed to screen to a Center for Disease Control threshold of 1 ppm of MCHM in drinking water. All areas of the system have been tested and cleared to that level.

Twelve days into this event, Freedom advised DEP that an additional product, PPH, had been mixed with the MCHM and had leaked into the river as well. Little was known about PPH, and we immediately began conducting research to identify the manufacturer and make contact with them to obtain the most current infor-

mation on this product to share with the CDC and the interagency team that was involved in water sampling.

Upon learning that the second chemical PPH was in the MCHM that leaked, testing was done to check for PPH as well as MCHM in the water samples. In order to help us build on the 1 ppm testing that was done, and to create a higher level of confidence in the safety of the water, systematic testing was done to clear all zones at a laboratory nondetectable level of 10 ppb.

The water distribution throughout this event has been a collective effort of multiple agencies at the Federal, State, and local levels. Local agencies and volunteer groups have distributed water to individual citizens who could not travel to distribution sites.

As we continue to move forward, we must learn from this event. What happened in Charleston, West Virginia, could happen in any town or city in the United States that has a similar water system located in a similar geographic footprint. We must capture the many lessons learned, using them as a catalyst to continue to strengthen our infrastructure security and resiliency posture.

We will use this event to more fully understand the interdependencies of our critical infrastructure, and to improve our State and local emergency response plans.

I would be remiss if I did not recognize the numerous first responders at all levels that worked tirelessly on this response and continue to do so. I also want to thank the hardworking men and women of the Division of Homeland Security and Emergency Management and all of the interagency partners that worked with us during this event and every event that we do.

I also want to recognize the private sector partners who provided support to us and the many who donated water and supplies, as well as many volunteers who worked tirelessly throughout this month.

I also feel it is important to recognize the Governor and his staff who worked diligently to support the agencies and the citizens of our State. He has already appointed an after-action review team to analyze our response and make recommendations for improvement.

Our goal is to make sure that an event like this never happens again. But if it does, we will be better prepared to respond and to mitigate it.

Mr. Chairman, and members of the committee, I thank you for inviting me here this morning, and I will be glad to answer questions at the appropriate time.

Mr. SHUSTER. Thank you very much.

And with that, Dr. Tierney is recognized for 5 minutes.

Dr. TIERNEY. Good morning, Mr. Chairman, and thank you, Congressman Rahall, Congresswoman Capito, Congressman Webster, and Senator Manchin.

I am Dr. Letitia Tierney. I am State health officer and commissioner of the Bureau for Public Health. I am both a physician and a lawyer, and I was born and raised here in West Virginia.

And for Congressman Webster, I was born at the General Hospital here in Charleston.

My undergraduate degree and my medical degree are both from West Virginia University.

I am honored to be here today to represent the hardworking men and women across the Bureau for Public Health who work daily on behalf of all West Virginians—from the healthiest to the most vulnerable of our population.

As commissioner and State health officer, my focus is on community health, ensuring the safety and well-being of West Virginia's population. And I very much appreciate the opportunity today to make a brief statement as to the Bureau for Public Health's role during the events that first began on January 9, 2014.

First, the mission of the Bureau for Public Health is to have healthy West Virginians in healthy communities and to shape the environments within which they can be safe and healthy.

We rely on science and evidence-based medicine for virtually every decision we make. This belief has guided the Bureau for Public Health's response.

From the time West Virginia American Water issued the "do not use" advisory, the DHHR set up its Health and Medical Incident Command Unit at the Center for Threat Preparedness. Experts from across the Bureau for Public Health and from our partner networks were engaged in that command structure.

Immediately, we began reaching out to local health departments, hospitals, schools, and long-term care facilities to quickly announce the discontinuation of all water use.

The bureau's Office of Epidemiology and Prevention Services spearheaded plans to put in motion health surveillance across the nine-county area.

At the same time, we began collaborating with the West Virginia Poison Control Center, which served as an informational resource for concerned residents. It is led by a doctor of pharmacy with significant experience in toxicology who served as an immediate resource for health care providers and the public alike. They also helped us track patients and their conditions.

The bureau's Office of Environmental Health Services began overseeing an interagency team led by the National Guard in collecting water samples. The bureau's director of infectious disease epidemiology reached out to the CDC to learn more about the chemical and to obtain guidance on a screening level for MCHM.

The CDC's toxicologists developed a very conservative screening level for the drinking water at 1 ppm. Therefore, the Bureau for Public Health, on the advice of the CDC, set the threshold for lifting water zones after 24 hours of results at 1 ppm or less.

From the beginning, a valuable collaboration made up of all stakeholders at the local, State, and Federal level was created, allowing for the timely sharing of information in order to provide the best possible service to our citizens.

The water has been repeatedly sampled and tested at multiple points across the affected region, using split samples to ensure testing results were consistent at multiple labs, including the bureau's Office of Laboratory Services.

Seven days into the response, and 2 days after the first zones had been reopened, the CDC issued a letter to the DHHR suggesting an advisory be issued to pregnant women to not drink the water until the MCHM results were at undetectable levels, out of an abundance of caution.

The Bureau for Public Health asked CDC to clarify their advisory. It was explained to us that all populations, including pregnant women, were included in the original assessment of the screening level at 1 ppm, and that the 1 ppm screening level was set at a very conservative level.

However, the CDC explained that the advisory was precautionary and issued only out of an abundance of caution.

Then nearly 2 weeks into the event, we were informed that Freedom Industries had reported to the DEP a second chemical, "PPH, stripped," was also spilled into the river on January 9. This chemical was stored in the same tank and was estimated to be approximately 7 percent of the total volume.

The intra-agency team went back and retested historic water samples. The CDC and their partners also rolled up their sleeves and went back to work to help us obtain critical data on PPH.

This was complicated by Freedom, who initially provided us with the incorrect Material Safety Data Sheet, which resulted in a delay in obtaining the appropriate screening level from our Federal partners.

Fortunately, virtually every sample retested for the PPH was at nondetectable levels.

Today, the Bureau for Public Health continues to oversee water testing. However, the public confidence level in the water quality is still low.

Moving forward, the Bureau for Public Health will continue to work on health and community assessments. Hospital surveillance began within 24 hours. And now, we are working with the CDC to initiate a community assessment study. This with the health surveillance we initiated within the first 24 hours of the event are the first steps.

Once these data sets are fully assessed, we will be able to use a more reasoned approach to evaluate the best method for population surveillance for possible long-term effects. Rushing into a decision is not in the best interest of public health, and this is not something we want to get wrong. We want to make sure that our surveillance, whether it be research, a registry, or other method, will yield us the data we seek in a statistically significant and reliable manner.

This is the heart of the mission of the Bureau for Public Health. It is what we do every day. We have been actively engaged in this event since day one, and for us, our job is really just beginning.

Water is fundamental and impacts every part of West Virginia and everything we hold dear.

So I thank you for your time.

Mr. SHUSTER. Thank you.

And with that, Mr. Merry is recognized for 5 minutes.

Mr. MERRY. Thank you, Chairman, Congresswoman Capito, Congressmen Webster and Rahall, Senator Manchin.

I am going to kind of give you the aspect of the responder. I mean, all this has been about the chemical itself, but the responders and what we did in Cabell County.

The issue regarding the water that the customers initially got was they were restricted to the eastern portion of Cabell County.

For that reason, Culloden Volunteer Fire Department was asked for their assistance in being the water distribution site.

That evening, the Huntington Area Food Bank was notified of the situation and a request made for bottled water. The food bank brought all of the bottled water and soft drinks they had on hand for distribution at the fire department.

Cabell County Emergency Service brought a 400-gallon military water buffalo to the fire department. This provided the ability to fill containers brought by the public.

The town of Milton, the mayor, Tom Canterbury, were notified, and a request made from the town of Milton water department to fill the water buffalo. It should be noted that the town of Milton water department supplied water to fill the water buffalo, as well as the West Virginia National Guard water buffaloes, during this situation—which Milton is on its own water system, so we were not.

Myself and the sheriff of the county, I notified Sheriff McComas of the developing situation and discussed the potential of problems, panic at the fire department distribution site. Sheriff McComas immediately dispatched deputies to secure the water distribution site. Deputies remained at the distribution site for security until the site was closed.

I contacted the county commission concerning the situation in response to that point. The commission gave myself the authorization to do whatever is needed to be done to ensure the residents of Cabell County and Culloden area had safe water.

The State of West Virginia EOC stood up and communications were established between that entity and Cabell County. There was not a firm time as to the arrival of water from the State or FEMA resources.

Due to the lack of available water in Cabell County and surrounding counties by private vendors, a decision was made to send two Cabell County EMS personnel to Louisa, Kentucky, to purchase bottled water and hand sanitizer. Since there was no estimated ETA on the emergency resources, a Cabell County Sheriff's Department vehicle was loaded with water and hand sanitizer, and routed immediately to the Culloden Volunteer Fire Department.

Myself and Sheriff McComas went to Eagle Distributing in West Huntington to explore the possibility of donation of canned water from Anheuser-Busch Companies. Representatives from Eagle were able to secure the contribution and an ETA would be Sunday morning, January 12. Eagle paid for the shipping costs, as well as provided staff and equipment to offload the 2,200 cases of canned water.

Several attempts were made to contact representatives from West Virginia American Water with negative results.

Bottled water and a military water buffalo were delivered by the West Virginia National Guard to Culloden fire department. These deliveries continued upon request during the duration of the situation. Myself and the sheriff drove two 5-ton trucks to Eagle Distributing to pick up 2,200 cases of canned water and deliver it to the Culloden fire department.

The Culloden fire department maintained a distribution site passing out bottled water as provided by the State of West Virginia, FEMA, and delivered by the West Virginia National Guard.

This report in no way documents all of the things that were done to ensure that residents of eastern Cabell County had safe water rather than the process by which the distribution site and water were attained, while it would be impossible to mention all the people, entities, and resources that assisted in the situation. I will stop.

Mr. SHUSTER. Thank you, Mr. Merry.

And with that, Mr. Petry is recognized for 5 minutes.

Mr. PETRY. I would first like to thank the distinguished members of the House of Representatives Committee on Transportation and Infrastructure for inviting me to speak this morning. I am appearing before the committee in my capacity as director of Kanawha County Department of Homeland Security and Emergency Management.

My primary purpose for testifying today is to offer a quick timeline of events that occurred on January 9, as it relates to the chemical spill at Freedom Industries that ultimately resulted in a "do not use" advisory being issued for customers of West Virginia American Water in Kanawha County and eight other counties.

On January 9 at approximately 10 a.m., calls were received by Metro 911, reporting a chemical odor in the area of the I-77 and I-79 split. Metro 911 notified emergency responders of the call and C.W. Sigman, the deputy director and fire coordinator for Kanawha County Department of Homeland Security and Emergency Management, and fire department officials responded to the area of Route 119 to Edens Fork to Mink Shoals and along Pennsylvania Avenue to look for a possibly leaking truck.

While responding to these areas, emergency officials could smell a licorice smell in the air, but they couldn't find the source. So within 30 minutes of the call, they returned to service.

At approximately 10:30, Mr. Sigman returned to the Emergency Management Office and notified me of the smell in the air and described it as a licorice smell. I told him to check the old Pennzoil plant on Barlow Drive, as I was familiar with the plant being a possible source for other chemicals stored there.

Mr. Sigman retrieved the Tier II data for the Etowah River Plant on Barlow Drive before going to the site. Upon arriving at Barlow Drive, Mr. Sigman found a Diversified Services truck leaving Barlow Drive.

There had been previous complaints on this company in the St. Albans area, and he suspected that the truck could be the source of the smell.

Mr. Sigman then continued to Freedom Industries, where he found two West Virginia Department of Environmental Protection Division of Air Quality personnel onsite. DEP officials reported to Mr. Sigman that they had received odor complaints at DEP, and they responded to the site. And there had been a small spill of crude MCHM, and they would talk to facility leaders regarding the matter.

Mr. Sigman provided DEP with a copy of the Tier II reports and MSDS for the chemical. Mr. Sigman then left the scene as DEP officials said they were handling the situation.

At approximately 11:30 a.m., my staff issued a media release, stating there had been a leak of MCHM at the Freedom Industries site and DEP was on scene at that time. The media release described the product and its usage.

At approximately 1:30, Mr. Sigman had then received a call from Mike Dorsey with DEP. Mr. Dorsey told him that the spill may be larger than originally thought, and it may have leaked into the river.

Mr. Sigman, on his way back to Freedom Industries, checked the Elk River where it flows into the Kanawha for any indication of the spill. There were no smells or indications of any contaminants by looking. There were ice floes on the river that day, so it was hard to see much.

At approximately 2 p.m., Grant Gunnoe, Charleston director of Homeland Security and Emergency Services, returned to the site of Freedom Industries with Mr. Sigman, and they met with DEP officials.

DEP officials showed them efforts being made to contain the leak. Absorbent pads had been placed around the outside of the containment.

A West Virginia American Water representative was onsite as well. The representative stated that they would put on extra carbon beds to capture any of the material at the water company plant.

An official from Freedom Industries was onsite as well and identified himself as Dennis Farrell, president of Freedom Industries. We asked him how much of the material had leaked, and Mr. Farrell stated "not much" and that they would have to weigh the amounts removed from the tank already and deduct that from the inventory to determine the amount that had been leaked.

Mr. Sigman and Mr. Gunnoe asked DEP officials if they needed any further assistance from Emergency Management and were told no. They further asked if any notification at the time needed to be made to the public and were also told no. Mr. Sigman and Mr. Gunnoe then returned to their respective offices.

At 4:30 p.m., Mr. Sigman received a call from Anita Ray at the Kanawha-Charleston Health Department, stating that they were receiving calls of a licorice type taste in the drinking water. The health department was contacting the water company to report that information.

Mr. Sigman then made county management aware of the situation and further contacted the West Virginia Division of Homeland Security and Emergency Management to make them aware of the situation.

The commission president initiated a call with Dr. Gupta, the health official for the Kanawha-Charleston Health Department, to make him aware of the situation.

On my way to 911, I authorized our staff to activate our EOC, so that we could have different levels of different agencies to help with the response.

Mr. Sigman from the MSDS report was able to determine that Eastman was the manufacturer of the chemical and facilitated a conference call with Eastman officials, West Virginia American Water, DHHR, and other emergency officials at 8 p.m. to discuss the chemical properties.

Eastman reported to all officials that the product was relatively soluble and should wash through the system and was readily biodegradable, and odor and taste were the bigger issues.

We immediately started asking for help through the West Virginia Division of Homeland Security and Emergency Management for their resources. We did receive water and other resources through our E-Team that we use constantly within the State.

And I, like my predecessors, have to thank all the volunteers that helped us in distributing all the water that they did, because we did have a lot of people helping us out to try to make sure the community had safe drinking water.

Mr. SHUSTER. Thank you very much, Mr. Petry.

With that, Mr. McIntyre is recognized for 5 minutes.

Mr. MCINTYRE. Mr. Chairman, Mr. Rahall, Mrs. Capito, Mr. Webster, and Mr. Manchin, thank you for the opportunity to be here today. My name is Jeff McIntyre, and I am the president of West Virginia American Water.

Our approximately 283 employees operate multiple systems and 9 water treatment plants, providing water services to roughly one-third of the State's population.

As a steward of a water system that serves more than 300,000 people in the Kanawha Valley, we take our responsibility of providing clean, safe water very seriously. It is our number one priority in every decision we make.

On January 9, an undetermined amount of 4-methylcyclohexanemethanol leaked into the Elk River from an aboveground storage tank at a Freedom Industries facility located about 1.5 miles above our Kanawha Valley water treatment plant.

We first learned of the Freedom Industries spill from the West Virginia Department of Environmental Protection. We then took immediate steps to gather more information about the chemical, augment our treatment processes in the Kanawha Valley plant, and begin consultations with Federal, State, and local public health officials.

After our water quality team determined that the augmented treatment process was not fully removing the chemical, we reached a joint decision with the West Virginia Bureau for Public Health to issue a "do not use" order to all customers of our Kanawha Valley system for several critical reasons.

In addition to loss of water for drinking, cooking, and bathing, a shutdown would have quickly resulted in the loss of basic sanitation capabilities for approximately 300,000 people.

A shutdown would also have quickly resulted in a loss of fire protection in the nine counties that we serve.

We had no way, at that time, to determine or estimate the duration of the chemical spill or resulting plume that would affect the water treatment plant.

And shutting down the plant, losing the system, then restarting it, would have been a prolonged, difficult process, keeping cus-

tomers out of water for any use for a substantially longer period of time than the actual period that the “do not use” order was in place.

On January 10, the West Virginia Bureau for Public Health received guidance from the Centers for Disease Control and Prevention and confirmation from the U.S. EPA that a maximum level of 1 ppm of MCHM would be protective of public health.

Levels of MCHM in the river’s raw water and the plant’s treated water have been at less than the CDC designated “protective of public health” level, 1 ppm, since January 13.

On January 15, based on additional guidance from the CDC, we issued another advisory for pregnant women to consider an alternative drinking water source until the chemical was at a nondetect level throughout the water distribution system.

On January 18, following extensive, around-the-clock testing throughout the system, the last area under the “do not use” order was lifted.

We will continue to flush the system and test water at designated locations, determined jointly by West Virginia American Water and the West Virginia Bureau for Public Health, until MCHM levels are nondetectable at all designated sampling locations throughout the distribution system.

On January 21, fully 12 days after the MCHM spill, Freedom Industries informed the West Virginia Department of Environmental Protection of the presence of a second chemical in the spill, a proprietary mixture of glycol ethers known as PPH.

Since this disclosure, a group of chemists, researchers, regulators, health organizations, and commercial laboratories collaborated in the development of a method of detection for PPH at the parts per billion level. Even at this minute detection level, only 2 samples out of 300 samples that have been tested have shown any trace of PPH, and both of these samples were after all customers were already under the “do not use” order.

I would like to underscore West Virginia American Water’s focus during the Freedom Industries chemical spill and aftermath. Safety is our number one priority. Continuous sampling, testing, and treatment is critical. Our present objective is no detectable MCHM in the distribution system water.

We are partnering with local, State, and Federal officials. We strive to provide our customers with nothing less than clean, safe drinking water.

West Virginia American Water has always supported laws and regulations that promote safe drinking water and has an outstanding record of compliance with these requirements. We are committed to working with State and Federal officials to protect the public health, to protect the public from threats to safe drinking water.

I would like to give my sincere and heartfelt thanks to the West Virginia Department of Health and Human Resources, the West Virginia Bureau for Public Health, and the West Virginia National Guard, as well as other agencies, companies, and subject matter experts, who were essential and capable partners in the wake of the Freedom Industries spill.

Thank you for the opportunity to appear before the committee.

Mr. SHUSTER. Thank you, Mr. McIntyre.

And I thank all of you. Again, I reassure you your full statements will be in the record for the committee.

I also want to offer a statement, without objection, to the record by Senator Rockefeller, who submitted a statement.

No objection, so ordered.

It is in the record.

Also, I understand that Senator Rockefeller's State director Rocky Goodwin is here with us today. We welcome her today. And I know that Senator Rockefeller is monitoring the situation and the events very closely, so we appreciate that.

With that, we will start the round of questions. I anticipate we will have a second round and a third round, if necessary. I am going to yield my first 5 minutes to Representative Capito to start the questioning.

Mrs. CAPITO. Thank you, Mr. Chairman, and thank all of you.

I would like to, before I begin my questioning, add to the record "Recommendations to Incorporate Public Health Components to Senate Bill 373" by Dr. Gupta, who is the Charleston-Kanawha Health Department health officer.

Mr. SHUSTER. Without objection, so ordered.

[The information follows:]



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Rahul Gupta, MD, MPH, FACP
 Executive Director/Health Officer

February 3, 2014

Recommendations to incorporate Public Health components to Senate Bill 373

I. INTEGRATED EFFORTS OF STATE AND LOCAL GOVERNMENTS

Develop the capacity of the select population-based local health departments (LHD) across the state to work in conjunction with West Virginia Department of Environmental Protection (WVDEP) and West Virginia Department of Health & Human Resources (WVDHHR) to integrate the environmental and public health aspects of water resources assessment, protection and management.

The selected LHDs (4-6 LHDs) will be able to provide input as consultation into the rule-making process for SB373 along with WVDHHR and other partners.

Participating LHDs will employ an environmental resource analyst who will work with their counterparts at WVDEP to ensure that Sections 22-26-10, 21-26-11 and 22-26-12 of SB373 requirements are fulfilled in their region. They will acquire the powers for this action as well as Section 22-26-13 and 22-26-14 under the WVDHHR Cabinet Secretary.

- 22-26-10 Registration of existing above ground storage tanks
- 22-26-11 Permits
- 22-26-12 Inspection, monitoring and testing
- 22-26-13 Administrative orders
- 22-26-14 Civil penalties and injunctive relief
- 22-26-15 Promulgation of rules 3-29a

II. CREATE HAZARDOUS CHEMICAL RELEASE PREVENTION PROGRAM

Under the WVDHHR Cabinet Secretary and the WVDEP Cabinet Secretary, Kanawha-Charleston Health Department (other LHDs if appropriate) will work with the industry to establish a Hazardous Chemical Release Prevention Program (HCRPP) along with an integrated emergency response between health and environmental protection agencies. The program would include statewide planning, exercising and responding in a coordinated manner between various state and local agencies. The HCRPP will be developed in accordance with the outstanding recommendations from the U.S. Chemical Safety and Hazard Investigation Board's 2011 Report on the Bayer CropScience explosion.

III. ESTABLISH A MEDICAL MONITORING PROGRAM

With consensus from other LHDs, a medical monitoring and surveillance program should be established at the Kanawha-Charleston Health Department which will expand to all nine (9) counties. Initial seed or bare bone funding in the amount of \$750,000 will provide for the monitoring program to begin. Additional funding will be sought from other sources including the federal government for the program to continue. This program would be administered for the population affected by the water contamination.

Respectfully Submitted,

Rahul Gupta, MD, MPH, FACP
 Health Officer

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Mrs. CAPITO. Thank you.

The big question I hear, Mr. McIntyre, and it is very simple, you said safety is your number one priority: Is the water safe to drink?

Mr. MCINTYRE. As a water company, we don't set the safe standards. But we are in compliance with all the standards set by the health-based agencies, like the CDC, the West Virginia Bureau of Public Health, and we have been since the 13th of January.

Yet, I recognize the customers' fear associated with the smell of something in their water. So as a water purveyor, we continue to work until the smell is eradicated from the system.

Mrs. CAPITO. Thank you for that answer. I would still like to hear it is safe, and I think that is what everybody wants, that one word.

Dr. Tierney, is the water safe to drink?

Dr. TIERNEY. That is, in a way, a difficult thing to say, because everybody has a different definition of "safe." As I used the example before, some people think it is safe to jump off the bridge on Bridge Day. I don't personally think that is safe. So everybody has a different definition.

Am I confident in the science? I am as confident as I can be, given what we have. I believe the water, based on the standards we have, is usable for every purpose, and that includes drinking, bathing, and cooking.

Mrs. CAPITO. So I guess the frustration I am feeling is that we can't come to that specific term where everybody could have that assurance.

I will note that you do have a giant thing of water in front of you, so I am assuming you are drinking that.

Dr. TIERNEY. I am. I am sorry, that is not meant to be a statement. But it is from my home tap and the ice cubes from my home ice machine. And I have been drinking it. I didn't think about that, but yes.

Mrs. CAPITO. Let me ask you this, Mr. McIntyre. This is something that you and I actually talked about on the day I came out there. There was never any communication or any reporting to you as the purveyor of potable water in the area what is upstream from you.

So you never knew or had any knowledge—I mean, you knew Freedom Industries was up there, but you didn't have any—there is no requirement to have communication as to what is up there and how you could have had a quicker response to this, maybe?

Mr. MCINTYRE. Well, I think the last part, let me address that first, because we had enough time and information to know that there was the spill and to respond. The information that would have been useful to us on what products were up there are really the aftermath in dealing with the customer and the residents' fear of the water, because it has this odor to it. And even its MSDS sheet doesn't refer much to its odorous nature in the drinking water system.

We had enough time to augment our treatment plant, and we were treating this material throughout the event but determined that after 4 p.m. that some of the material made it through the treatment system.

Mrs. CAPITO. The testing protocols weren't really in place though for at least 24 hours. I remember you working with the Guard to try to figure out how to detect for this. Wouldn't it have been useful to have all this—you could have pulled it up on your computer. We could test right away. We know what we are looking for. We know how to prevent, to provide a quicker response.

Mr. MCINTYRE. Well, again, I challenge the "quicker response" part. I think having more information on all products above a water treatment plant is extremely helpful, extremely helpful. But we had enough information. We augmented the treatment plant, and we followed the standard protocols. "Do not use" is a protocol that the West Virginia Bureau of Public Health has in place for these situations.

And I have said publicly, if we knew again what we know now about the materials and we had the same issue presented to us, we would have made the same decision, to continue running the treatment plant and put a "do not use" order.

It is really having information after that, that would have been really helpful to help people understand the nature of the health hazards, the risks associated with this product, or apparently the lack of any of those health hazards.

Mrs. CAPITO. All right, Mr. Petry, thank you for your all's response in an emergency way, and the way you were able to disseminate water, both you and the other emergency response responders.

You have had a lot of interaction with FEMA we have here in Kanawha County and across the State. Would you say that the response with FEMA in terms of helping you deliver was satisfactory, or would you have suggestions for them?

Mr. PETRY. Well, we keep telling people to be prepared for 72 hours at home, just in case a major emergency happens.

Once an incident occurs, they have to stand up their own response and send us the resources that we request through the State. And FEMA did, in fact, send us a lot of water that we needed.

It is obvious that it doesn't get here quick enough for us, but they have procedures, I am sure, they have to go through. And we take it upon ourselves to use our local resources until they get here.

But of course, I would like to see a quicker response.

Mrs. CAPITO. OK, thank you.

I have 20—oh, I have no more seconds, all right, thank you.

Mr. SHUSTER. We will do a second round.

And with that, Mr. Rahall is recognized.

Mr. RAHALL. Thank you, Mr. Chairman.

Gordon, let me begin by asking you a couple questions. You stated in your testimony that during the first 24 hours you had difficulty communicating with American Water. Is that accurate?

Mr. MERRY. Yes.

Mr. RAHALL. Did it improve after a time period? Did your communication improve?

Mr. MERRY. No, sir. I never did get through to them. I never got an answer. I left messages and never did get a return phone call.

Mr. RAHALL. From where were you getting your information, then?

Mr. MERRY. From Jimmy.

Mr. RAHALL. From Homeland Security? OK, I think a lot of people were doing that.

Let me ask, have you documented, Gordon, the final costs to the county of Cabell?

Mr. MERRY. When we were in the very beginning, we spent around \$2,000 for water and hand sanitizer. One of the things that we tell, we tell the people in the community to be ready for 48–72 hours. Local government is going to have to step up and also be ready in that same time period. Without the Huntington Area Food Bank, there would not have been water in the town of Culloden.

Mr. RAHALL. Mr. McIntyre, let me ask you about the school situation here, a full month after the incident started, there have been reports of fumes in the schools. Are you helping? What are those fumes coming from, first of all?

Mr. MCINTYRE. I don't know, sir. I can't answer that question. The National Guard has been the agency that has been actively involved in sampling the schools. And all I can tell you is the sampling results that I have seen before and after these events are at nondetect levels. But I can't speak to those events. I don't have any direct knowledge.

Mr. RAHALL. Does anyone on the panel have knowledge of the fumes in the schools? Jimmy?

Mr. GIANATO. Yes, Congressman, we have put together some National Guard and Bureau of Public Health and DEP strike teams that have responded to these calls from the schools concerning the fumes.

As Mr. McIntyre said, we have gone in and tested the water immediately, going into the schools and then doing tests afterward. But all the water before any flushing or anything else was done came back at a nondetect level.

There have been some issues with the schools in the cafeterias with their dishwashers, when the water has been heated up, that that odor seems to be greater at that point.

But that is the only thing we have really seen as a potential cause.

Mr. RAHALL. Have you been assisting them in their flushing efforts?

Mr. GIANATO. The Guard has. The schools have—the schools are a little bit more complex than the average home to flush, in that a lot of the particularly newer schools have automated systems that control the flow of water, just like the faucets that you have to put your hands under to make run, so you can't just go in and turn the faucet on and let it flush. So they are a little bit more complicated.

But the school systems have brought plumbers in, and they have flushed their buildings. And in cases where we have had the thresholds above the 10 ppb, they have gone in and reflushed. And all the schools that are at less than the 10 ppb at this point.

Mr. RAHALL. What about individual homes that want to be tested? I know you can't just go around testing everybody's home. What is the process they go through?

Mr. GIANATO. Some individuals are doing private testing on their own. The Governor's office and the Bureau of Public Health are working on a plan.

As you all know, this is not a very simple issue. It is very complex issue, particularly when you start looking at going into homes. So we want to make sure, and the Governor wants to make sure, whatever we do is very thoughtful and well laid out, so that when we do something, it is something that we can replicate down the road.

Mr. RAHALL. Thank you.

Mr. SHUSTER. Thank you.

With that, Mr. Webster is recognized for 5 minutes.

Mr. WEBSTER. Thank you, Mr. Chairman. I just have a couple questions.

Is there any evidence that the chemical residue could adhere itself to iron pipes, copper pipes? Anyone know the answer to that?

Dr. TIERNEY. It is a good question, and we have been looking at it. It relates to a chemical's octanol water partition coefficient. It is a factor in science called a KOW, and it is a complex calculation based on the particular substance or chemical that is involved.

We do know that if a KOW is high, it tends to be more sticky to substances. And if a KOW is low, it tends to be less likely to be sticky to substances. And fortunately, the MCHM has a low partition coefficient, and so we don't anticipate it is going to be sticky.

The EPA is looking at it right now, to make sure that the chemical doesn't have any unique characteristics, which would cause it to act different than we expect.

But the fact that when we have had consistently lower levels with the testing tends to suggest it is acting like we would expect it to act with that partition coefficient. But we don't have an official answer from the EPA yet.

Mr. WEBSTER. Is there a protocol for a residence or a commercial building on what to do to flush, before you begin using, like to flush out the water that maybe sat there for a couple days? Is there any protocol for that, or a checklist of some sort?

Mr. MCINTYRE. Yes, sir. Working with the different health agencies, we created a flushing protocol for customers. But it is important to remind everyone that that protocol is based on helping homes ensure that they could get below the 1 ppm health protective limit.

We were very clear at the time that we advised people to follow the flushing protocol, which our customer service center, if people call, if they haven't flushed, I would certainly advise them to flush. We hear a number of customers haven't. We have staff that can walk them through that process on the phone. It is on our Web site. It is a printed three-page brochure.

There are essentially three basic steps to the flushing. You flush the hot water for 15 minutes, and then the cold water for 5 minutes, then outside taps for 5 minutes. And then you move to what we consider cleansing, which is changing any filters on your ice-maker, dealing with automatic icemakers and that.

So again, that was to get below the protected health limit. And that has been very effective when used and followed.

We also advised people, though, at that time, that the flushing was not to eliminate the odor, but to meet the protective health limit set by the CDC. And below that number, people would still be able to smell this product in their water.

So that is the next phase that we moved into in the flushing and the nondetect, and we continue to work to eradicate it, so that no people can smell it in their water.

I hope that answers your question.

Mr. WEBSTER. Thank you, Mr. Chairman.

Mr. SHUSTER. Thank you.

With that, Senator Manchin?

Senator MANCHIN. Thank you, Mr. Chairman.

First of all, it is just unconscionable that Freedom Industries could not have known about the leak, did not report the leak, and did not know how much of the leak happened. It is unconscionable to me to believe that.

So I am sure action will be taken for responsible parties there. And the answers we got afterwards were absolutely unacceptable.

With that being said, I understand, my outrage and everyone else's outrage should be that, of any unconscionable company out there doing that type of business.

With that being said, Dr. Moure-Eraso, you with your impressive background, is the water safe? Would you drink the water and use the water? Would your children and grandchildren?

If it is not safe, and you can't say that, what do you want to see testing before you would consider it to be safe, if you can answer?

Mr. MOURE-ERASO. Well, what I would say is that the value that was the trigger, the sampling and the trigger, the stopping the use of the water, is what is called a screening level, it is what the CDC says. The screening level is not necessarily a level that protects public health.

Senator MANCHIN. But do you consider it to be safe?

Mr. MOURE-ERASO. Well, I consider that the toxicology that exists for this chemical is so little, and the chemical is so little studied, that it is very hard to say what is the safe level.

What we should be looking at is what are the levels of detection that we have, and try to use the water, as is happening here, when they are below the levels of detection.

But I will look back to the level of detection that this is the screening level that was reported.

Senator MANCHIN. So nobody is going to say it is safe. That is what I am hearing from everybody here.

And that is the confusion that we have right now.

With that being said, Mr. McIntyre, if you could tell me, there was no backup. You had single-sourced intake. Do you have any other of your plants around the country that you provide water to that only have single-source intake and no backup system that you can't shut down the intake? Is anyone else as vulnerable as we are?

Mr. MCINTYRE. I can tell you, Senator, that many water treatment plants around the country have a single intake for their water treatment plant.

Senator MANCHIN. With those type of chemicals right next door?

Mr. MCINTYRE. It depends on where they are located as to what they have. But there are major river basins—

Senator MANCHIN. So you are saying—how about backup? You are saying the rest of your systems have no backup?

Mr. MCINTYRE. I am not saying the rest of the systems. I don't know that. We can get you that answer.

Senator MANCHIN. Would you get us that information, please, for the record, because I would like to know.

I can't imagine why we wouldn't have shut it down. That is common sense, that you shut down the system. But then you told me about the way it should have been done, because of the public safety and this and that. And I just can't imagine that we couldn't have shut that down, had the backup system until we could determine it.

I know, at the time, they didn't let you know and all this going on, but this makes no sense.

If I could go right quickly to Mr. Gianato and Dr. Tierney, have you evaluated the other areas in West Virginia that people might be with their intake systems, where the water treatment plants that could be vulnerable right now? And have you taken any actions?

Mr. GIANATO. Yes, sir. I can tell you what we have done. We have begun the process of mapping all the water intakes across the State and looking at the locations—

Senator MANCHIN. Have we identified, basically, and notified anybody that could be in harm's way?

Mr. GIANATO. Not at this point. We are still trying to—

Senator MANCHIN. You are still evaluating.

Dr. Tierney?

Dr. TIERNEY. We have maps that need to be updated, but we don't have any authority to do something—

Senator MANCHIN. So the legislation right now—I am understanding EPA does not have the backing of any codification of any law that allows you to go and do anything that is nonhazmat. Is that correct?

Dr. TIERNEY. You'll have to ask EPA.

Senator MANCHIN. Mike? I am sorry, Mr. Dorsey?

Mr. DORSEY. It is all right, Senator. Well, the DEP.

But that is correct, at least from the State—

Senator MANCHIN. But they are saying, why didn't you do this? Why wouldn't you have already been doing this? Why did we have a horrific situation like this? You follow me?

People are starting to blame with everybody, but tell me why the DEP would not have been able to do what needed to be done?

Mr. DORSEY. Well, the laws we do have aren't designed to do what you are suggesting, Senator. We can look at people's stormwater. We can look at any specific outfalls that they have. But we do not have the statutory or rule authority to go up and say, OK, I want to do a survey upstream here.

Senator MANCHIN. Have you looked at the legislation that we have provided, the legislation I introduced on the Senate side, and I am sure our colleagues are introducing on the House side, to see if that would give you the adequate—

Mr. DORSEY. Yes, sir. That is a big help.

Mr. MOURE-ERASO. Senator, if I can comment?

Senator MANCHIN. Doctor?

Mr. MOURE-ERASO. You know, part of our lines of inquiry in our investigation are toward prevention. It is good that we are looking at the waterworks and where the water is coming from. But also, in our lines of inquiry, we are focusing on the siting of chemical storage tanks. And we believe that it is a very important issue, an issue that I define it as inherently safe actions.

We have to be clear, after a mapping is done of the facilities for water, what are the chemical storage that are nearby and why do they need to be there if they are hazardous substances. And that will be an important step to take.

Senator MANCHIN. Thank you, Mr. Chairman.

Mr. SHUSTER. We will do another round, if there are more questions.

My first question is a followup with what Representative Capito and Senator Manchin asked. The panel sitting here, nobody is willing to say that the water is safe, categorically say it is safe.

And I am not going to ask you again, because I think everybody is going to dance around the question.

And I don't know exactly why, but I suspect the main reason why is everybody is afraid they are going to get sued if something happens weeks from now and something enters the water and somebody is going to bring a lawsuit against somebody. So that is troubling to me that in our society, when we have the people that are supposed to protect us and the experts, nobody is willing to say it because they are afraid of a lawsuit.

So that is a different topic for today, but it is about tort reform and making sure that our experts, that the people who are protecting society, are able to step up and say, with our technology, we ought to be able say the water is safe.

And so I understand why you are hedging.

Communications in this case, first, let me go to—you talked about, Senator Manchin asked why didn't you shut down. Can you explain again why you didn't shut down the system?

I think you talked about it in your—

Mr. MCINTYRE. Certainly, thank you. And it is the number one question that we keep getting asked as the water purveyors.

And people believe that you can just physically turn off and turn on a water plant. Unfortunately, that is not the reality.

And it is a system that was severely stressed with the polar vortex temperatures that we had. And then the thaw that occurred after that, we had numerous pipe breaks. People were turning their water on to let it run so that their taps wouldn't freeze. We encourage that, so that they don't have a costly service line repair or replacement.

But our system, on January 9, would not support any length of shutdown. In fact, if we had shut down the facility, we would have been out of water in areas within 15 minutes to 2 hours.

That aside, we provide a critical service to the community, and I would like people to try to envision what it would be like to be in a community where there is no water in the pipes, and you have no sanitation. Where do you go to the bathroom? Hospitals, if there

is a fire in the hospital, how do you protect those patients? There are no sprinkler systems in buildings. It is a downtown area.

What if someone started a fire? How do you address that?

Those were all critical thought processes that we had to go through.

And to extend, you can't just turn it back on. Once you waited for the plume to pass, and we were 4 to 5 days before the river water was below the CDC standard, so when people talk about storage, I don't believe storage would have helped, because you have to get the plant back on and you have to get it running. Now you have to introduce that water very carefully into a system that is full of air.

And if you have ever seen your tap at home with air in it in the bathroom, when you turn it on, that explosive nature, there would have been pipe breaks all over the system that would have had to have been fixed, and then remedied, and then boil water, and move out and out and out.

Conservatively, we believe that it would have been more than a month to turn the water system back on for all customers. We believe we made the right decision to protect this community.

Mr. SHUSTER. A whole other health hazard you bring up, if you shut that system down, potentially.

Would the staff turn the clock on for me? I need the discipline of the clock also.

Communication, I think communication is absolutely critical in these events. I want to start first with Mr. Merry and Mr. Petry on the communication.

You had said you weren't able to communicate with the water company, but the Federal, the State, how is that communication? How did that work for you?

Mr. MERRY. I had very good communications with the Office of Emergency Service. I had no problems. I never had one issue.

Mr. PETRY. I, too, had good communications with the State Office of Emergency Services. But we have been in these situations before, with the chemical facilities in the area, and we found out that we were better off if we had somebody at the site. And we had my deputy go to the meetings and be a part of the committee that was at the water company, along with all the other people from the National Guard and other agencies.

Mr. SHUSTER. And how did that information from the CDC flow down? Does that go through the State to you folks or to you directly?

Mr. MOURE-ERASO. Chairman Shuster, if I might?

Mr. SHUSTER. Yes.

Mr. MOURE-ERASO. The issue of communications, it is an important one, and it talks about your original question that says there is the appearance that people are hedging when they say what is the safe level, if this is a safe level.

But if you are going to give a scientific answer to this, you have to have scientific data in which you can base your statement of safety.

And in this particular chemical, there are only two toxicological studies that were ever made. One is an acute single dose mortality

study and the other was a daily oral study, four groups of animals in each. I mean, this is the bare minimum that you do.

And those types of studies are not designed to give us the answer of what is safe. That is one of the things that we are also contemplating in our investigation of this case, to look, what Senator Manchin is doing, to look at the Toxic Substance Control Act, and see why the people that basically put this chemical in commerce don't provide the necessary toxicological data to tell us what is the level of toxicity that we should worry about. And that remains to be done.

Mr. SHUSTER. And, Mr. McIntyre, Mr. Merry said he was unable to communicate with you folks. Can you talk a little bit about what was going on over there? Was there a reason that you didn't communicate with them? Can you talk a little bit about the communication?

Mr. MCINTYRE. To be honest, I didn't know he was trying to communicate with us. I did not receive any calls. I am not sure who he was calling, but we had a whole interagency team at the water treatment plant, running day and night. So I can't speak to who he called, but I find it very unfortunate, because I believe we have been extremely communicative with all the partners through this process.

A lot of communications have been happening. I don't know where this one fell apart.

Mr. SHUSTER. In a situation like this, unfortunately, that happens now and then.

But again, communication, that is something we need to learn from this, from the Federal level all the way down. And I think the folks, where the rubber meets the road, you guys, the county emergency responders, you need to have that communication all the way up the chain.

A final question, Mr. Gianato, you mentioned about learning from other sites that are similar to West Virginia. Have you identified other places that are similar? As the committee goes forward, as we look at potential legislation, that we can look and say this is a very similar situation that occurred in this State or that State?

Mr. GIANATO. What I meant to say in that is people need to learn from what we are doing here. And we need to look at being able to replicate and learn from the mistakes that we made, the things that we did right, and push that model all across the country.

We are currently talking to FEMA and DHS about developing some things. As you know, there are some national security implications to this that need to be discussed in another forum.

Mr. SHUSTER. Absolutely.

With that, I am going to go for second round of questions.

Mr. Rahall?

Mr. RAHALL. Yes. Mr. Dorsey, let me ask you about the restoration of the site.

Mr. DORSEY. Yes, sir.

Mr. RAHALL. You mentioned, I think somewhere in the press, that it has been stalled because of the various investigations, including a criminal investigation going on.

Has that restoration been restarted, or is it still on hold?

Mr. DORSEY. Congressman Rahall, we have never really stopped. We have been actively managing the site. But the area where the leak actually occurred is in the tank farm on top of the bench there. And the area where the leak occurred has been sort of off-limits. We put sumps in there. We put some interceptor trenches, et cetera, to collect the raw material that was coming out. And that has stopped.

But it would surprise me if we didn't, when we move these tanks, find additional pools of the material below that. Now that is not to say it is going to get off-site.

Mr. McIntyre stated the water has been clean since January 13. I believe the intake side of that has been clean since January 11. So we have been very successful keeping the stuff on the site.

But the Chemical Safety Board is up there investigating. The Federal prosecutor is investigating. There are several up there. And until they give the clearance—I am hoping that this week—we haven't been able to move those tanks and see what we have right below them.

Mr. MOURE-ERASO. Congressman Rahall?

Mr. RAHALL. Yes?

Mr. MOURE-ERASO. In the preliminary work that we have done, we have been able to examine the bottom of the tank. And I will ask our lead investigator, Mr. Banks, if he could show to you the photographs that we have of the actual failure of the bottom of the tank. We have it over here.

Mr. RAHALL. You mentioned Mr. Banks. I met with him on his first day he was in State. He is no stranger to our State, either, having been here with your board in previous accidents.

Mr. BANKS. Well, as you can see here, there are two holes that we photographed in the tank. One is about 19 cm, and one is about 10 cm. And this is the object of our attempt to get this portion of the tank extracted and removed for forensic examination.

We are working with our partners in the U.S. Attorney's Office and the State to make sure that everybody understands that there is a protocol we have developed. We are working with a preeminent tank expert to make sure that these portions of the tank are removed in the prescribed manner.

And I think we are close to doing that. The plaintiffs' attorneys were out at the site this past Friday, and we are hoping to strike an arrangement where we can remove this. Once we remove this, the remediation can take place.

This is the main area, but we want to make sure that we thoroughly document those other tanks that were also in similar service to determine if there was a failure mechanism in those tanks that could tell us why the tanks failed.

Mr. RAHALL. Is that steel?

Mr. BANKS. We think it is carbon steel, but we would want to determine that before we make any pronouncements on that.

Mr. MOURE-ERASO. Yes, I would like to add that one line of investigation is to look at corrosion mechanisms. We are going to take samples of that tank and find out how the corrosion happened, and to try to make recommendations of what should be recommended to build the tanks. There are materials, there are al-

loys, that are especially protective towards corrosion that we would like to recommend at the end.

Mr. RAHALL. How long do you expect this process to take?

Mr. BANKS. The actual removing of the sample, which is called a coupon, could be a day. But it is a matter of getting all of the other tanks mapped, and I think that could take maybe 2 to 3 days. We have an expert that has recommended a company that can come in to do the work.

Mr. RAHALL. I know we have discussed this before, and it has been mentioned in today's testimony. Your recommendations from the last time you were in West Virginia 3 years ago, roughly, were not acted upon. I know those recommendations have been incorporated in various pieces of legislation my colleagues have introduced, recommendations that I fully support and hope to see them acted upon this time.

Would you anticipate that that will be a basis upon which your recommendations will be based after this report is complete?

I guess my question is, will you re-ask that those recommendations be made again?

Mr. MOURE-ERASO. Well, I think we have a thorough opportunity to present the necessity of having that type of chemical spill protection, chemical release protection, that is the basis of past recommendations. And this, of course, is a case that definitely this applies to, to have a system to address and prevent chemical spills.

Mr. RAHALL. OK, thank you.

Thank you, Mr. Chairman.

Mr. SHUSTER. Mrs. Capito?

Mrs. CAPITO. Thank you.

Dr. Tierney, I would like to talk about the public health effects of what is going on here.

First of all, just very briefly, if you could give me a snapshot of what you have seen. Is it rashes, or is it growing, or how many is it, approximately?

The other question I have is on the ruling, the letter from the CDC about pregnant women. I mean, everybody that I talked to said, of course, that startled, really shook us. Young families have babies. They have formula they are making with the water. Why just pregnant women? What kind of judgment was made on that? And then maybe just briefly a little bit about what long-term look-out you would predict on this, on the public health aspect.

Dr. TIERNEY. I am sorry, what was—

Mrs. CAPITO. The first one was, a real snapshot as to what you have seen.

Dr. TIERNEY. Oh, what we have seen.

Mrs. CAPITO. Yes.

Dr. TIERNEY. Very fortunately, in our survey of the hospitals' emergency rooms, it is been less than a half percent of the affected population presented, which thank God.

Mrs. CAPITO. Yes.

Dr. TIERNEY. And we have seen mostly nausea and vomiting, which was self-limited.

Mrs. CAPITO. Is that from the odor or from drinking?

Dr. TIERNEY. All of the above.

Mrs. CAPITO. OK.

Dr. TIERNEY. And some rashes, also which resolved.

So like I said, thank God, we don't want anyone harmed from this.

Mrs. CAPITO. And then the letter from the CDC?

Dr. TIERNEY. Now, the letter from the CDC, I can tell you we were equally shocked, surprised, and worried when we got it. We kept pressing them for more clarification. And the letter is what it is.

Mrs. CAPITO. Right.

Dr. TIERNEY. I will tell you, I personally, on Saturday, which would have been the 11th of January, when we were discussing the screening level that they gave me, being a doctor, I specifically asked what about babies, what about breastfeeding, what about immunocompromised, what about pregnant women, what about? And they told me that they felt that the screening level, because of the safety factors that they factored into it, were protective of all those populations.

So we were shocked, also, when they presented us with this.

Mrs. CAPITO. And the last thing is, have you gotten to any kind of strategy for some sort of long-term—

Dr. TIERNEY. We are in the process of that. And like I said, it is not something that we want to get wrong. So we want to make sure that it is a reasoned approach.

We are starting with our surveillance, looking back at it. And then we are going to do a CASPER study, which is a household surveillance study through the CDC.

We are going to take that information, and then we are going to figure out what is going to give us the best information.

Mrs. CAPITO. All right.

Mr. Dorsey, there was a report early on that the tanks had never been inspected. And then, as Senator Manchin said, everybody was getting blamed for this. What I am hearing you say is that was not part of your legal authority. Am I correct in that?

Mr. DORSEY. That is correct, Congresswoman Capito. Nothing that we would have done in our legal authority that has inspectors for the laws that are applicable up here would have detected that leak.

Mrs. CAPITO. Had you had inspectors on the site at all previously?

Mr. DORSEY. Yes. They are been inspectors onsite numerous times over the years. Our secretary reported initially, in the heat of the moment, when this thing first happened, that they hadn't. But that was not the case.

Now, I can't tell you how many times they have been on there, but it was probably over a dozen for air complaints and other inspections up there.

Mrs. CAPITO. OK. But your real job there was not to inspect the safety of the tank. It was to respond to complaints, odor complaints and such. Is that correct?

Mr. DORSEY. That is correct. Yes, ma'am.

Mrs. CAPITO. OK. There is another myth around—not myth, but concern with the flushing issue, in that everybody seems to be smelling it the most with the hot water.

And I can attest to that. In the shower, I can smell it. Although I didn't this morning, I was happy to report. But brushing my teeth with the cold, I didn't smell it.

So is there some characteristic here with hot? Is it because—I mean, we are talking about sediments in our hot water tanks? Help us out with this. We are talking about it a lot.

Mr. MCINTYRE. Yes, and it is well known in the water industry that chemicals that have an odor to them, like geosmin or MIB, which are associated with the much cleaner water we have in the Great Lakes, decades ago, water treatment plants started seeing odors in their water, and that is why many of them have switched to the type of process that we have with carbon caps, activated carbon caps, on their treatment system. It is to deal with these odors.

And they are more prominent in hot water. I think it is mostly in the shower, and it is because you are making it into more of a mist, and it has temperature. It is just like anything you cook. It smells more when it is hot than when it is cold. It is natural.

Mrs. CAPITO. So that is not an unexpected result, with the hot water you would smell it more prominently?

Mr. MCINTYRE. I would expect it fully.

Mrs. CAPITO. OK. All right.

Yes, Dr. Moure-Eraso, you mentioned in your testimony that a private inspector had been to the site to inspect the tanks in October of 2013. Now I don't know what reason they had a contractor coming in. Since they are not here, we cannot ask them that question. But I am going to surmise, since it was sold at the end of the year, that that might have been one of the provisos of change of ownership. I don't know that to be a fact, but that is kind of what hit me.

You mentioned in there, in your report, you say that the tank and then "had been maintained to some structural adequacy, but not necessarily full compliance of API 653 or EPA standards."

Can you give us some detail on that? What does that mean? It was corroding?

Mr. MOURE-ERASO. Let me answer first, and then I pass you to Mr. Banks.

First of all, they did inspect in October 2013 the chemical tanks and terminals in Charleston and Nitro. But they didn't address the tank that leaked, 396.

Mrs. CAPITO. Oh, the specific tank was not—

Mr. MOURE-ERASO. It wasn't addressed because it didn't contain any hazardous substances as legally defined.

Mrs. CAPITO. Oh, OK.

Mr. MOURE-ERASO. But, you know, I wonder if you would like to ask details of API 653.

Mr. BANKS. Well, there is a pretty rigorous standard that 653 would hold the tanks to, if they were used in a certain service.

Mrs. CAPITO. If it was toxic, is that what you—

Mr. BANKS. Yes, if it was toxic. And because this material is not considered toxic, it received a waiver for that type of scrutiny.

Mrs. CAPITO. I see.

Mr. BANKS. And so, moving forward, we are going to look at using 653 as the standard for evaluating this tank to make sure

that, if there were some failure, we will be able to determine that using that process.

Mrs. CAPITO. Thank you. I just finally would say that this toxicity standard, we all realize that something that is nontoxic can bring you right to your knees. And I think that is probably what TSCA reform is all about, and I look forward to working on that.

Thank you, Mr. Chairman.

Mr. SHUSTER. I recognize Senator Manchin.

Senator MANCHIN. Thank you, Mr. Chairman.

I think this would be to Mr. Dorsey. You know, the credibility of Freedom, there is no credibility. They said first we thought it was a small leak. Then it was, like, I have heard 3 different things, 3,000, 5,000, and 7,500.

Do we know much how much actually leaked in the river?

Mr. DORSEY. No, sir. I stopped reporting how much they were telling me was leaked after I got three different numbers.

Senator MANCHIN. Why should we be relying on them for any information?

Mr. DORSEY. Well, I am relying on the Chemical Safety Board. When the Chemical Safety Board tells me how much they think was leaked, that is what I am going to believe.

Senator MANCHIN. OK. Next of all, was there no plan? I mean, when we knew there was a leak, why wouldn't we have emptied those tanks immediately, before more leaked out?

Mr. DORSEY. Well, we did. Even by the time I got there, they had a tanker hooked to that tank and were pumping the material out. It just takes X amount of time, depending on how much was in there, to get it emptied, to where no more will come out.

Senator MANCHIN. You know, we are briefed, all of us are briefed on a regular basis about cybersecurity and how vulnerable our food supply, our water supply, our grid system, and what it can do to our lives in America.

Seeing this as a wakeup call, do you think that this should be considered the same as the national disaster?

The comparison would be this, Doctor, or whoever wants to chime in on this, the same as Hurricane Sandy. There is no State that can take care of this by themselves, and they are expecting the State, but we shouldn't be looking at how much it costs and whether we can do the testing and whether we should—it just has to be done.

So, Doctor, we are going to need people like yourself that will speak up and say this is a wakeup call to prevent a national disaster, and can we expect some help from the Federal Government?

Mr. MOURE-ERASO. Yes, I think one way to deal with this is the bill you are proposing in the Senate. But what we have to see here is what is the cost of not acting.

We are able to measure what it has cost the State of West Virginia to have this incident in terms of money lost and income lost and anguish to the people. To really address the storage of chemicals in tanks will be a small cost, compared with the other costs.

Senator MANCHIN. Do you agree that we should have long-term monitoring in the valley here for the people in the affected areas, so that we know the effect this has on humans or no effect at all on humans?

Mr. MOURE-ERASO. Exactly. I think the Toxic Substance Control Act should address the toxicology—

Senator MANCHIN. We should expect the Federal Government to work with us on that?

Mr. MOURE-ERASO. And that is the Federal Government, yes.

Senator MANCHIN. OK, I do, too. I agree with you wholeheartedly on that.

Dr. TIERNEY. I want to chime in, yes.

Senator MANCHIN. And I know, Dr. Tierney, I know you are new to the job. I know you are on the frontline of defense right now, but with that being said, I have to say a few things here.

Your analogy of being safe, and I know no one—I am understanding that not one of you up here are willing to say, unequivocally, it is safe. And I would assume that you would have to have 0 ppb, ppt, no nothing, for you to use the word “safe.” I think that is where everyone is probably.

I am using it normally. A lot of us are using it normally. I don’t think my water needs to be tested in my home. But if I had a young family, I think it would be a different scenario. So we are all in agreement.

I would just say this about your analogy on the bridge. I have been to Bridge Day many times. I did not think it was safe. I think there were people who wanted to throw me off at times, but I didn’t think that I would do it voluntarily.

With that being said, you understand they all sign a waiver. They sign a waiver of the danger, to hold nobody responsible. We shouldn’t have to sign a waiver to drink our water.

Dr. TIERNEY. And I agree. I just, as a doctor, cannot countenance jumping off a bridge.

Senator MANCHIN. Let me ask any of you, as we are starting to wrap this up, does the State right now, I would assume that they are looking at all types of testing, whoever would want a test, I am sure of that and I am very appreciative of that. And long term, you are all receptive to have long-term monitoring. And Dr. Gupta basically has been on the frontline and I think we have a lot of confidence.

And I think everybody should be working together. If you want to comment on that, and if anybody wants to comment on something that you think would give the people in this valley some confidence that we are moving in the right direction, that anything and everything that possibly can be done is being done.

So, Doctor?

Dr. TIERNEY. I agree. We are going to need help from our Federal partners to establish these things. They are not done easily or inexpensively.

Senator MANCHIN. You are accepting the testing and you are accepting monitoring also?

Dr. TIERNEY. Absolutely. I think all of this needs to be done to restore confidence.

Senator MANCHIN. Jeff, do you have anything on your situation, do you have any plans on putting in another intake? Do you have any plans on, basically, a backup system?

Mr. MCINTYRE. Senator, we have to look at all options following this event. We still have been dealing with this as an event working through it. There will be a time that we go through that.

I think it is well known now that when that plant was constructed, some 40 years ago, there was an application for a second intake that was not approved.

Senator MANCHIN. Jeff, I would say this, that everyone is upset about their water bill. You know that, right?

Mr. MCINTYRE. I know they are.

Senator MANCHIN. Can you at least give us a break?

Mr. MCINTYRE. Senator, it is a great question. But our customers continue to use the water, whether they think it is appropriate—

Senator MANCHIN. Well, most of it has been used for flushing and everything else. The water bills are all spiked higher than they have ever been. They haven't been able to use it.

Mr. MCINTYRE. Well, a number of people have let their water run it to protect it from freezing. We know that. We see that.

We have given credits to small business and residential customers based on what was needed to be done in their homes, and it exceeds that amount, what they needed to do to have the water below the 1 ppm.

And I can tell you, Senator, like you, you were at the plant, you drank the same finished water I drank that day. I have been drinking it since the order was lifted. My wife does. As a water company—

Senator MANCHIN. How are you sleeping?

Mr. MCINTYRE. I am sleeping great.

We have to follow what is given to us as health-based guidance. And that treatment plant, everything we do, we monitor for 100 contaminants at various times throughout the year. We monitor for mercury. We monitor for arsenic. We monitor for pesticides. And if anyone thinks that every water treatment system has absolutely zero of all of these chemicals or compounds, they are mistaken.

There are limits set. And as a water purveyor, we work within those limits. So that is the hesitation we have, because we only do what we are instructed to do in making water available to our customers.

And again, through this whole event, through all of the sampling, there is less than 10 results that I am aware of that were above 1 ppm. But it is a fear-based issue, because people can smell it. And we recognize it. And that is what we are working to, eliminate that fear.

Senator MANCHIN. Thank you.

Mr. SHUSTER. I am going to let anyone know, it is not standard operating procedure in a hearing like this, but I think, because of the situation, in talking to Mr. Rahall and Mrs. Capito, to allow the public, if they want to make a comment, what we will do is we will—the public can submit anything they want for the record. We will take it. It is open for 30 days, as requested by Mr. Rahall.

But I am going to ask a final couple questions, and we will take 10 statements from the audience. We will let you talk for 1 minute. But if you care, if someone in the public wants to, if you line up over there, we will have a microphone.

But I guess we will take 10 folks. If you want to say something, we will give you 1 minute to say it. Then, of course, you can submit all you want for the record.

So again, I have a couple questions here.

First question is, when the facility operator discloses that there are chemicals present at a facility, under the Emergency Planning and Community Right to Know Act, that is the law, how is the information utilized, when you have that information, to prepare for and help prevent possible incidents?

And I would like you folks from the county, if you could respond to that? How do you utilize that information?

Mr. PETRY. Well, when we receive a call of some type of a leak or some type of odor complaint that we get quite often, we respond with our fire departments. My fire coordinator responds.

Once we determine where the smell or origination of the leak may have happened, we do compile a list of all the Tier II reports that we have on file. Our KPPC, which is our LEPC in the county, our local planning committee, they as well as the State has a list of the chemicals that are stored at the facility.

And as far as I know, the local responding fire department is supposed to have that information within their office also.

So we try to get all the information that we have and take it with us to that area, so we will know as much about it as we can, so that we can, A, not put our people in harm's way, and then, B, let the people in the area know if there is something they need to worry about.

Mr. SHUSTER. Mr. Merry, similar?

Mr. MERRY. I agree 100 percent. It is under SARA Title III. They must report to the local volunteer fire departments or fire departments, and also submit the Tier II reporting to the local LEPC.

Mr. SHUSTER. And your first responders, do they get out to these sites? The priority sites that are out there, do they get out and visit them? Are they familiar with them?

Mr. MERRY. We don't have as many sites as Kanawha County. Fortunately, we don't.

Mr. PETRY. Well, our volunteer departments, as well as our professional fire departments, do preplanning. So they do try to get out in the areas, trying to see what they have to protect and protect us from. So I would say, yes, they do probably get out.

Do they know right now how many and what all the different types of chemicals there are? No. But they do try to get out and preplan and talk with the presidents of the corporations to try to find out what their problems are.

Mr. SHUSTER. And, Mr. Gianato, your department would be the department involved in that?

Mr. GIANATO. Our department oversees the State Emergency Response Commission. We receive the Tier II reports from all over the State.

Currently, I think we have about 9,000 facilities that file those reports to the State.

The problem is that most of those facilities file paper reports, and they come in large volumes of paper, and there is no way—we have to literally manually enter each one of those documents.

We are currently looking at mandating electronic filing into a database, and we have been looking at that for some time. It is just like everything else. There is a cost associated with doing that, and then you have to make it available to people who don't have access to an electronic means to file. So we are looking to work through that.

Mr. SHUSTER. OK, thank you very much.

I think that is all the questions. Anyone else have any?

OK, so I see we have seven people in line. Again, Matt, hold the mic, because, as we found in Congress, if we surrender the mic to a Member of the House, or especially a Member of the Senate, we may never get it back.

[Laughter.]

Mr. SHUSTER. So with that, again, this is not something we typically do, but again, with the urging of my colleagues up here, and I think it is such an important subject matter, that I will give you a minute—and again, you can submit all the documentation you want to.

But again, we will give you a minute to make a public statement.

So with that, introduce yourself, please, and where you are from, or who you are with.

Ms. NYE. Thank you, Chairman Shuster. My name is Maya Nye. I am a spokesperson for People Concerned About Chemical Safety, but I grew up a mile away from the Institute chemical facility. My father worked for Union Carbide for his entire career. My mom worked there, and my stepfather worked there. I worked there while I was in college.

Chemical incidents are, actually, they are anything but new to me, and much like water contamination is anything but new to the people of the coalfields of West Virginia and to the fracking fields of West Virginia.

I have been through many chemical incidents in my life. And when this incident first happened, my dear friend called me panicky because she hadn't heard about the leak until after it had already entered the drinking water supply, and she had just bathed her twin daughters in it. And she was worried about the immediate and long-term health effects of the chemical that she had just unknowingly exposed her children to.

Mr. SHUSTER. Since we only have seven people up there, I am going to give everybody 2 minutes, but we are going to cut it off at seven.

So you have another minute. Go ahead.

Ms. NYE. We need peer-reviewed scientific evidence to measure the accuracy of flushing protocols. We need peer-reviewed scientific evidence to tell us what the long-term health effects will be. We need medical monitoring. We have needed it for the last 70 years in this valley.

We need to continue water distribution until someone up here is willing to say that the water is safe. We are so glad to have the Chemical Safety Board back here.

And while the water intake system should be high on the priority list for protective measures that we need to put in place, I believe that we are short-sighting ourselves if we stop there. I mean, I think we really need to insist that companies like Freedom invest

in updating their aging infrastructure in order to protect not only our water intakes, but to protect the workers, protect community members, and to protect a thriving local economy.

We need to mandate the implementation of inherently safer technologies as well and reduce the stockpiles in order to minimize the terrorist threat that is posed by these facilities.

And we need to take a good hard look at chemical safety from cradle to grave, so from community's like mine that manufacture, through transportation, to the application, and to the waste disposal. We have to look at that chain. And if we don't, we are really short-sighting ourselves.

Mr. SHUSTER. Thank you very much.

Ms. NYE. Thank you.

Mr. SHUSTER. You can submit it all for the record.

The next person up.

Again, we cut off the line with the last gentleman with the flannel shirt and the beard. He is our last one. But we are going to give everyone 2 minutes instead, so set the clock at 2.

Can you introduce yourself?

Ms. THOMPSON. Yes, my name is Janet J.T. Thompson, and I appreciate everything I have heard about what you plan to do in the future. And I can appreciate what you went through with Freedom.

But my question is this, and we do need an answer now, we were told that the water, that if you smelled the water, the water was not safe. I had a little 10-year-old girl tell me the other day that the water stinks. She can smell the smell. They are probably about 1,000 feet from the plant. They still smell it, and the water stinks when it comes out.

So I think what we really want to know in order to restore the confidence is when will we stop smelling the water and when will we hear that the chemical leak is completely stopped. And that will assure us that it is not getting into the water.

Mr. SHUSTER. Thank you. Would someone care to answer? I think someone has talked a little bit about that. I can't remember who. There is some smell but—

Mr. DORSEY. Mr. Chairman, if I may say one thing to start with. As everybody knows, the odor threshold on this is very, very low.

Some of you may remember a week ago last Friday, we cut a pipe up there that was just laying on the bottom that no one knew about, and we had odor complaints a mile away from the site. And we took a sample of that material and it came back at 98 ppm, less than 100 ppm, people were smelling it a mile away.

So it is very easy to smell, as everybody says.

And I need to point out that when we do get to work removing the tanks, there will likely be odors again up there. That doesn't mean it will be in the water. That means that we will have exposed some of it to the air, and it is going to smell.

But I understand what the lady is talking about. You can smell it at extremely low levels.

Mr. SHUSTER. But confirm that the leak has stopped. You are confident that the leak has—

Mr. DORSEY. Yes.

Mr. SHUSTER. OK.

Mr. McIntyre?

Mr. MCINTYRE. Let me talk to the drinking water and the odor in the drinking water again. We have tried to be as consistent as we can, but it is fact-based information. You can smell MCHM in the water below the protective health limit. Just because you can smell something doesn't mean it is not safe.

In fact, since the 17th, we have been out flushing and testing the system, and there has been no result that is close to the protective health limit since the 17th of January.

Mr. SHUSTER. Thank you.

Next person?

Thank you for the question.

Please introduce yourself.

Ms. DAVIS. Yes, my name is Sue Davis. I have lived in this valley for 71 years. And the chemicals have interrupted my life and my well-being again, as they have over the last 71 years.

Mr. McIntyre, the money that you offer us won't pay for the gas that I have used to get to the doctor.

Also, why do you suppose all of our stores are always filled with every kind of drinking water possible? Jugs, small bottles.

We simply don't have that much confidence in your water system to begin with. So it is going to be a long time before you restore faith in it again, and you will never have mine.

The lady from the poison control, I think she's poison control.

Mr. SHUSTER. We don't have anyone here from the CDC. Dr. Tierney, the health officer.

Ms. DAVIS. The doctor, yes.

I appreciate your comments, but you are not considering the people who haven't gone to the hospitals and the doctors. I went to one of your medical facilities. My cousin insisted that I go because I have been sick. And when I got there, I said, "My cousin made me come. I don't know what you can do, but we thought maybe you might want some documentation or some numbers." She said, "We are not interested in any numbers. We are not keeping any."

Congresswoman Capito, I didn't care for the slip of tongue when you refer to the "myth" anymore than I referred to what you said on the TV about the shelves being stocked, and we can go out and buy the water. I thought that was poor taste, but I am glad that you apologized for that as well.

That bothers me. It still bothers me.

Mr. SHUSTER. Thank you very much. Your time has run out here. We are going to get to the other folks.

Ms. DAVIS. I would like to say one thing, if I might.

Mr. SHUSTER. I will give you 10 seconds. Go ahead.

Ms. DAVIS. OK, we are talking about the water in the pipes. When I came outside the other day, the water from the flooding in the yard was so bad with the licorice smell. This has been the last rain we had 2 or 3 days ago. And it has burned me so tremendously and caused my breathing to be so bad. Why should the water be on our land when it rains?

And I did keep some of the water, if anybody is interested. I know it couldn't be scientifically accepted, but I would like to know.

Mr. SHUSTER. Thank you very much for your comments.

Next, please?

Ms. ROSSER. Hello, I am Angie Rosser, executive director of the West Virginia Rivers Coalition.

And shortly after the spill, we worked with a team of independent science and policy experts to issue a report that looked out at the comprehensive failings on every level of Government, the information gaps, and recommended policy recommendations. I will make sure that is submitted as part of the written record.

But I would urge this committee to look at two things. One was a statement that our DEP secretary has made in the press. And I noticed he is not here as a member of the panel to answer to this. But he said that this incident could have been prevented or minimized with the regulations we currently have in place; it just didn't click with anyone that this was a concern.

So I would like for the committee to ask him more on what he means about this, could have been prevented with the current regulations, and why it didn't click as a concern, before we start rushing to legislate.

The other thing we are concerned about is the Charleston intake, the Bureau of Public Health let us know that through their source water assessment report, we have 51 potential significant contaminant sources to this intake. Freedom Industries is one of them.

We are wondering what about the other 50? This is not just about one leaky tank. It is not just about aboveground storage tanks that are a threat to our water supplies. So we need to take comprehensive look.

In Huntington, there are 424 potential significant contaminant sources. So please, let's not have a narrow view and just look at tanks, but look at all the threats to our water sources that we face in West Virginia and around the Nation.

Mr. SHUSTER. Thank you, and I feel confident, in talking with Senator Manchin and both Representatives Rahall and Capito, they are asking those types of questions right now that you have.

Next, please introduce yourself?

Mr. CARUTHERS. Yes, sir. I appreciate everybody's interest here today. I have some observations, not blame. One of my observations is—my name is Jim Caruthers. I am the mayor of the town of Poca.

And the flushing procedure, we are flushing our homes with contaminated water. All we are doing is bringing dirty water in and dumping it out. It is being flushed through the spigot. It is not being flushed through the mains. It is not being flushed through the hydrants. It is being flushed through the spigots, and an unusual number of breaks.

And I think that people have a misconception. They think they are doing themselves a lot of good when they run the water through, but if we are still pulling dirty water in through the main system, the main system needs to be purged, then we purge the houses.

Secondly, the beginning of this project was a cluster. I think everybody knows that. The notification was great by the media. The media did a great job.

For those of us or those of you who sit with a beep-beep in your hand that are listening or watching a computer, a television, or a cell phone at all times, which I see through this group almost ev-

everybody does, but there are a few of us who go out and do things. We don't know about it.

These two counties just put in a fabulous system last year, an emergency siren system with a voice override. It could have been activated instantly, and everybody could have been told "do not use the water"—the guy walking down the street, the kids playing in the yards. There are 21 of these spread throughout our counties.

It wouldn't have gotten everybody, but between this notification and the phone system and the media, I think a lot of people could have been tipped off early and not have potentially taken in some of these hazardous materials.

I think, all in all, we are very lucky that we haven't had major medical problems.

I am a resident of Putnam County, and we used to use the Nitro water. You talk about smell. Whatever fish died upriver, we smelled it that night. It has come a long way. It is far better than it was, but it has a ways to go.

But I do appreciate your turnout. Thank you.

Mr. SHUSTER. Thank you very much, Mr. Mayor.

And the next gentlemen, please introduce yourself.

Mr. GILPEN. James Gilpen, I live in Cross Lanes, West Virginia.

First and most, Freedom Industries is not who I pay my water bill to. I pay my water bill to West Virginia American Water. They should have protected us in all results of anything.

And first and most, I have worked in chemical plants. I have dealt with chemicals. There is a PPE standard that should have been done. Does anybody have a PPE standard that we should have had when we flushed our water?

I have a spot on my leg that I got the first day I stepped in the water. I won't shower or bathe in it right now.

My question is, is what are we doing—not with the past and what we have done. I understand what happened in the past. What are we doing in the future? Why cannot one of you all stand up and say our water is drinkable? Why can't you all say it is OK to bathe in our water and it won't have long-term—

Mr. SHUSTER. I think that question has been asked and answered a couple times.

Mr. GILPEN. But no one wants to answer that question.

Mr. SHUSTER. Well, the experts have said that there are some concerns about there hasn't been enough testing. As I pointed out—

Mr. GILPEN. Their biggest fear is a lawsuit. That is the number one thing.

Mr. SHUSTER. Well, my concern is people are afraid there are going to be lawsuits.

Mr. GILPEN. In West Virginia, I think if our government can't supply us with good drinking water, then something needs to be done.

Mr. SHUSTER. That is what we are holding this hearing here for today, to take it back to Washington. You have three very able and capable Representatives.

Mr. GILPEN. And to bring it up, he asked if it was a major disaster? Yes, it is a major disaster. If our babies cannot drink water, and our elderly cannot drink water, and my mother, she's on a res-

pirator, and to purify the water in our homes, then what is there, Senator Manchin?

Mr. SHUSTER. That is what we are trying to get to the bottom of. Thank you for your comments.

The next gentlemen, would you please step to the mic?

Mr. REYNOLDS. Yes, my name is Chuck Reynolds. I live in Fraziers Bottom, West Virginia. That is in Putnam County, 35 miles to the west.

And we were told to flush our water system. As instructed, I flushed the water system, and it still had the smell.

I flushed it twice, and it was still there.

And now my wife and I, of course, like everybody else, at water distribution centers, my wife has to go to the town of Hurricane, and both her parents are real elderly, and we have to get water off of them, because the town of Hurricane is smart enough to have their own water system. They are not hooked to West Virginia Water.

And I am going to give you the standpoint from this: I am a maintenance person, OK? I worked for the State of West Virginia for 23 years, OK? And you get a chemical in a hot water tank, it is very hard to get it out.

You are testing the cold water. You need to test the hot water. Not only that, the reason people were letting their water run is because they don't want their pipes to freeze. They are not using the water.

I am not drinking the water. My wife is not drinking the water. None of my neighbors trust the water.

And you know, I don't put all the blame on the water company. We need laws to enforce. We need to enforce these laws when you make them, and prosecute these people who are responsible for polluting our water and polluting our air.

And the main thing, I was told by a very strong source, by one of the workers who worked for Freedom Industries, that he found a leak in a tank. Instead of reporting it, he was told to take a paintbrush and paint it.

So that is what you are dealing with.

Mr. SHUSTER. I am sure those investigations are going on. I thank you for your comments. Those kind of investigations, I am sure, will be investigated.

Again, I want to thank everybody for participating, especially our witnesses today. Thank you very much for helping us understand and educating us on what has happened here.

As mentioned, Mr. Rahall made the motion to keep the record open for 30 days. So anybody who wishes to submit testimony or information to the committee has 30 days to do that.

And again, I am confident that you folks are represented by Senator Manchin, Senator Rockefeller, Representatives Rahall and Capito, four very able Representatives for the people of West Virginia. Your voice will be heard, not only in the committee, but in the Congress.

So again, I thank everybody for being here.

And with that, the committee stands adjourned.

[Whereupon, at 11:10 a.m., the committee was adjourned.]

**Statement of Senator John D. Rockefeller IV
U.S. House Committee on Transportation and Infrastructure
Hearing on the Charleston, West Virginia Chemical Spill
February 10, 2014**



Chairman Shuster, Ranking Member Rahall, and Members of the Committee, I thank you for holding this hearing today.

For 10 days following the January 9th chemical spill, 300,000 West Virginians were told not to use their water for drinking, cooking, cleaning, bathing or washing. Despite government assurances that the water is safe, doubt lingers. And now, a month after the spill, too many unanswered questions remain.

It has been a financially taxing and emotionally draining month for families and businesses who have struggled with concerns about the water's safety, worries about long-term health effects of this chemical exposure, and the noxious odor that remains in their water. State and federal agencies are working to find answers, but deficiencies in our regulatory structure and the lack of adequate funding for federal agencies have made their jobs infinitely more difficult.

We must ensure that no West Virginian is left doubting our future and or our regulatory scheme at the state or federal level.

We have learned the hard way that it is dangerous to simply rely on industry to do the right thing. Industry has long resisted new regulations or stronger enforcement measures. It is short-sighted to think that last month's spill is an isolated incident in West Virginia. And it is short-sighted to think that proper regulations would in any way stifle business—the contrary is true. Good businesses cannot thrive or even survive if they must shoulder the costs when bad actors get away with cutting corners. It's time to acknowledge that industry is not looking out for you. Too many in industry are driven solely by maximized profits, and this cynical strategy has caused tremendous harm to West Virginians' well-being and has shaken their sense of our state's future.

However, I have been encouraged to hear so many passionate and articulate people who love West Virginia step up and demand that we protect our future. We know that we can no longer trade the public's health and welfare for industry profits.

Because I believe this disaster revealed troubling inadequacies, I began requesting resources and support on day one, and have continued those efforts every day since.

In the hours following the spill, I asked the Chemical Safety Board to open an investigation into the root cause of the spill. Knowing that the Chemical Safety Board's mission is seriously

strained by irresponsible funding cuts that left it understaffed and overworked, I worked with my colleagues working on the Fiscal Year 2014 omnibus to secure additional resources to help the Board do its job.

People have been understandably worried about their health. And to address those concerns I asked the Centers for Disease Control and the Environmental Protection Agency to work on a joint study into the long-term health risks associated with this chemical spill.

As everyone worked to respond to the crisis, we learned that no one knew enough about the chemicals that poisoned the water. So, I contacted the National Institute of Environmental Health Sciences and Centers for Disease Control asking that any studies, new findings or outside data be shared among the many federal and state agencies working to address this spill, as well as with the public, as fully and as quickly as possible.

I am also addressing the problem through legislation. Senator Manchin and I, along with Senator Boxer, introduced a bill that would require regular state inspections of chemical storage facilities and make sure the chemical industry is held accountable for developing an emergency response plan for their facilities when an incident like this occurs.

In addition, I cosponsored two bills with Senator Schatz that would hold companies like Freedom Industries accountable when spills of non-hazardous substances occur, and provide state and federal governments with access to funding that can cover the costs associated with cleaning up a chemical spill.

Locally, I've remained in close contact with state agencies and the National Guard and have written letters to West Virginia American Water asking for more transparency and clarity in what the company is doing to minimize the risk to its customers.

Let me be clear: I have been deeply frustrated and disappointed with the halting and slow flow of information West Virginians need to make good decisions about the use of their tap water. As West Virginians make decisions about the water they use, they must have straightforward answers about possible contaminants in the water. Their confidence will only be restored when they are sure that that everyone across the board—businesses, manufacturers and government officials—is being up front and doing everything possible to protect their health and safeguard their water.

I thank the Committee for focusing its attention on this tragic incident in West Virginia that has dramatically impacted the lives of so many wonderful people in this state. We need to do everything possible to make sure a disaster like this never has to happen again, and we must make sure that those who are responsible for this situation are held accountable. Please know that I am fully committed to these goals.

Testimony of Chairperson Rafael Moure-Eraso
Committee on Transportation and Infrastructure
Field Hearing in Charleston, WV
2.10.2014

Thank you to Chairman Shuster and Ranking Member Rahall for inviting me to participate in this important hearing today. I am Rafael Moure-Eraso, Chairperson of the U.S. Chemical Safety Board or CSB.

There are a few things that people here in West Virginia will never take for granted again. Common acts such as using tap water to prepare dinner for your family or drawing a bath for your child; everyday activities that quickly became impossible for approximately 300,000 West Virginians on January 9, 2014.

Unfortunately, weeks after this incident the community is still suffering, questions remain unanswered and people are still scared to use the water.

It is clear to me, as chairperson of an independent federal agency charged with investigating industrial chemical accidents, that urgent steps are required to significantly improve the safety of facilities that handle hazardous chemicals. The chemical sector is vital to our economy, yet potentially dangerous to those who live near the thousands of facilities that process or store hazardous chemicals.

The CSB has 41 employees, half of whom are professional accident investigators with highly technical skills. Currently the CSB has a 4 member team in the field investigating this accident. Heading the team is Supervisory Investigator Johnnie Banks who is with me today.

First, I think it is important to discuss the history that the CSB has had investigating accidents in the Kanawha Valley. This is our third deployment to a major chemical incident in the valley. In 2008 two workers were fatally injured at the Bayer CropScience chemical plant in Institute when a waste tank containing the highly toxic pesticide methomyl violently exploded. Then in 2010, three incidents occurred in a thirty-three hour period at the DuPont Belle facility. There was a release of highly toxic phosgene, exposing a veteran operator and resulting in his death one day later.

Following the CSB's investigation into the Bayer and DuPont incidents the board recommended that the county, working with the state, establish a hazardous chemical release prevention program to enhance safety and optimize emergency response. The CSB recommended that the health department establish an industrial safety authority, paid for using fees assessed on the companies processing or handling potentially dangerous chemicals. As an example, we cited the successful program in California's Contra Costa County, which has an equally dense industrial

chemical base. Although no regulatory program is 100% effective, the Contra Costa program has reported a dramatic decrease in serious incidents over the years without any adverse impact on employment or the business community.

State and local authorities tell us they considered the recommendation but due to a number of reasons, including funding, it has not been adopted.

The CSB's previous recommendations aimed at empowering a government agency to determine just what posed a high hazard. Perhaps qualified inspectors would have considered aging chemical storage tanks, located just upstream from a public drinking water treatment plant, to be potentially "highly hazardous" and worthy of a closer look.

I am very encouraged by the recent efforts of legislators including Representative Capito, Senator Rockefeller, and State Delegate Skinner who are all seeking to have the CSB recommendation implemented to protect West Virginia residents and businesses. I thank you all – let's work together to get this done.

All of us here today are all too aware of the recent events that occurred at Freedom Industries. On January 9, 2014, a 46,000-gallon steel tank experienced a leak of up to 10,000 gallons of 4-Methylcyclohexane methanol (MCHM) with an estimated 5.6% PPH. A significant amount of the chemical was released into the Elk River, a tributary to the Kanawha River.

Today, I am here to discuss some preliminary findings into the CSB's ongoing investigation.

The CSB's preliminary research indicates that there is a gap in the regulatory framework that fails to adequately cover above ground storage tanks.

In October of 2013, at the request of the company, Tank Engineering and Management Consultants performed a review of the tank terminals located in Charleston and Nitro. The evaluation was conducted and approved by an API-653 and 570 certified inspector, who also was credentialed as a National Association of Corrosion Engineers (NACE) Certified Corrosion Technologist. The review notes that the substances stored in tank 396 are considered "non hazardous" by the Environmental Protection Agency and are therefore not regulated by the federal Spill Prevention Control and Counter Measure Program, or SPCC rule. The review further notes that the tanks have "been maintained to some structural adequacy but not necessarily in full compliance with API-653 or EPA standards." API-653 is considered the prevailing voluntary good practice for above ground storage tank (AST) inspection, repair, alteration and repair, and was developed to establish a uniform national program that assists state and local governments in AST regulations.

It is important to note that API 653 is the very first safeguard for improving the safety and reliability of aboveground storage tanks. 653 covers basically every age related damage

mechanism known, including but not limited to corrosion, brittle fracture and improper fabrication.

While EPA's SPCC rule outlines requirements for prevention and preparedness of oil discharges such regulations do not apply to tanks containing "non hazardous substances" like those found at Freedom Industries. Under existing state and federal laws these tanks, including tank 396, were not regulated by the state or federal government.

While there are laws prohibiting polluting to waterways with a spill, there are not really any clear, mandatory standards for how you site, design, maintain, and inspect non petroleum tanks at a storage facility.

The CSB has determined that the secondary containment wall - which was composed of cinder blocks and surrounded tank 396 - provided very little protection from a possible release. Company documents further show that the wall was not lined and that tank 396 rested directly on porous material including gravel and soil.

Moving forward the CSB will closely examine tank 396. We plan to complete a thorough internal inspection of the tank to determine the tank's wall thickness at the time of the incident. We will also examine tank design, materials of construction, inspection practices, state and federal oversight of similar tanks as well as existing industry best practices including those supplied by the American Petroleum Institute. The tanks in use at Freedom Industries were over one-half century old. Considering the best way to improve the safety of tanks at facilities that have similar tanks in use is an important question.

The team will also examine the response to the leak once it was discovered. We are particularly interested in the adequacy of information on MCHM and PPH hazards since the manufacturers' MSDSs repeatedly says "no data available" for numerous toxicological properties, especially chronic toxicity.

Having information readily available for the public is an issue we will be further examining in regard to ongoing reform of the Toxic Substances Control Act.

Emergency responders, local officials, regulators and public utilities must be provided the proper information in order to protect the community from potential risks.

I would like to conclude by strongly commending Senator Manchin, Senator Rockefeller and Senator Boxer for promptly introducing legislation aimed at safeguarding water supplies from chemical leaks. Modern standards are strongly needed in this area, I encourage any effort, any legislative reform to follow the basic framework of accident prevention, known as the hierarchy of controls -- which is an effectiveness ranking of techniques used to control hazards and the risk they represent. The further up the hierarchy, the more effective the risk reduction achieved. In

brief, the most effective accident prevention measures typically involve what is called inherent safety. I realize that is a term that has drawn some controversy, but it is really just an industry-developed concept that focuses on safety in design. For chemical storage tanks like this, the first question that should always be asked is, do they need to be near the water supply for some reason? Unfortunately in the case of Freedom Industries, the answer would have been “no.” The facility was simply a truck terminal, and its position alongside the Elk River just upstream of the water intake was a historical anomaly that had tragic consequences. The facility just did not need to be where it was. And although relocating it would have had some costs, those pale beside the costs that thousands of West Virginia residents and businesses are now paying for this disaster.

Another form of inherent safety, or safety in design, is using corrosion-resistant materials for tank construction. That is something we will need to explore further, as we determine the failure mode for this particular tank.

Moving down the hierarchy are engineering solutions that don’t eliminate the risk of an accident but make it far less likely. These may include double-walled tank designs, leak detection systems, and secondary containment structures like dikes and liners. A lot of the industry has moved in this direction over the many decades since the Freedom Industries tanks were constructed.

Finally near the bottom of the hierarchy are measures such as inspections for corrosion or other potential failure mechanisms. Now inspections are absolutely essential in any sort of hazardous process operation or storage site. But I would caution that, according to the hierarchy of controls, they are among the least effective of safeguards. Hazards can be missed in inspections – we see that all the time at the CSB. The effectiveness of inspections totally depends on the skill and thoroughness of the inspector. And of course, there can be significant time intervals between inspections, and bad things can happen during those periods. So inspections are essential, but they are not a complete solution by any means. What is needed – and what I hope this legislation leads to – is a holistic approach to preventing these incidents.

Thank you for inviting me testify at today’s field hearing.

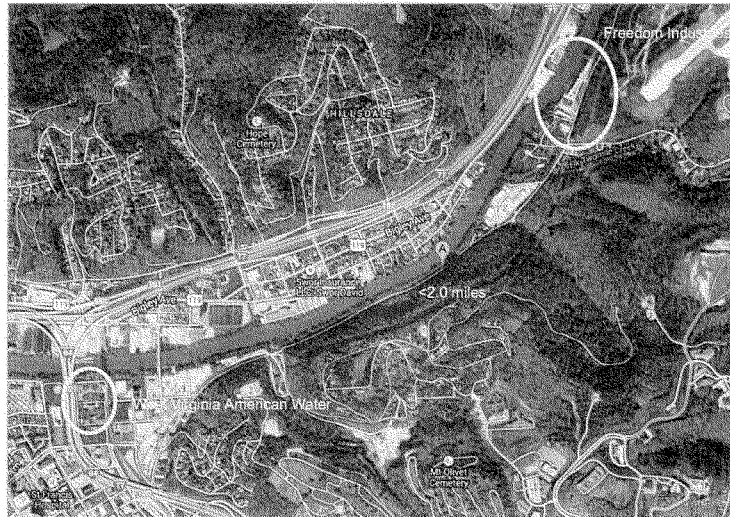
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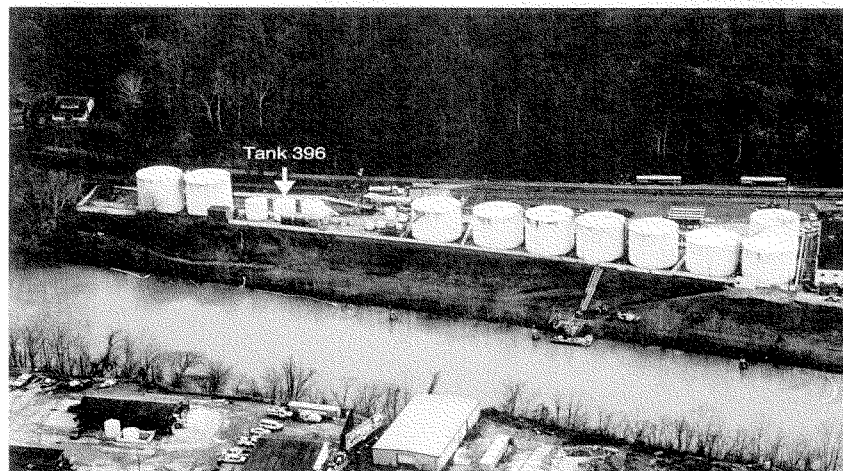
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**Freedom Industries MCHM Spill January 9, 2014
A Responder's Perspective**

As everyone is now aware, Freedom Industries, situated less than one-and-one-half miles above the West Virginia American Water Company's water intake on the Elk River in Charleston, discovered a release of Crude Methylcyclohexanone Methanol (MCHM) on January 9, 2014. The impact of this release is still being felt. As one of the first state responders on site, and someone who is still involved in the remediation of the site, I appreciate this opportunity to offer my perspective on the event and a few thoughts on related issues.

After the release was discovered by investigators from the Department of Environmental Protection's Division of Air Quality (DEP), I was contacted by their supervisor and arrived at the site with Matthew Smith, a chemist from my staff at approximately 12:15. Before Matthew and I left for the facility, Assistant Chief Rusty Joins was instructed to notify West Virginia American Water, and a water company official was at the facility when we arrived. At this time, it was apparent that the MCHM (and as we later learned propylene glycol phenyl ether or PPH) was leaving the facility through a drain pipe that runs below the tank farm and leaking through a retaining wall that was part of the facility's secondary containment. The drain pipe was leaking through a rusted bottom into an erosion ditch about 5 to 10 feet below the containment wall, and the material that was exiting through the wall was draining directly into a rubble-filled swale that is located where an old fire suppression intake had been located. Company officials had, by this time, placed an absorbent boom at the point where material was leaking through the wall.

As we investigated the spill scene, we could see that MCHM was entering the river from both on top of and below an ice shelf that extended approximately 10 feet from the shore into the river. While it was impossible to identify point sources where the material was entering the river, it was clear that the above-mentioned sources were the primary routes of entry into the river for the MCHM. After reviewing the Material Safety Data Sheet (MSDS) for the MCHM, the water company official stated that he thought the problem could be addressed by adding additional activated carbon to the water plant filters. I handed the investigation over to our Environmental Enforcement group and left the site at 2:45 p.m. It was not until approximately 4:20 p.m. that I started receiving calls detailing the larger water contamination problem. Since that time, remediation efforts have continued at the site.

Remediation activities at the site have included the installation of collection sumps in the tank area, interceptor trenches, and the aggressive management of off-site water,

rainwater and snowmelt. While these remediation efforts are ongoing, a number of investigations are taking place by state, federal and private parties-the U.S Chemical Safety and Hazard Investigation Board, the Federal Prosecutor's Office, the West Virginia Attorney General's Office, the bankruptcy plaintiffs and others. These investigations are, by and large, necessary, but they also slow remediation efforts in the vicinity of the tank that spilled the material. It is hoped that within a couple of weeks all of the investigations will have reached a point where unfettered access to the tank area will be possible.

An unusual issue with MCHM and PPH is their relative lack of toxicity. The problems that the release caused are very real and there is no doubt that the "do not use" order was the right thing to do; but there is relatively little data on the chemicals and the data that does exist, while incomplete, shows a low rate of toxicity for all routes of exposure. In a world where deadly chemicals such as methyl isocyanate, dioxins, and others grab all the headlines, little thought is given to those less toxic, but ubiquitous, chemicals that can wreak havoc with our lives like these chemicals have. Neither of these chemicals is even considered to be hazardous materials by any state or federal laws. The Toxic Substances Control Act (TSCA) is a federal law that was designed to serve as a safety net for chemicals that were not regulated by other programs. Due to lack of support, it has never fulfilled its responsibilities; potentially harmful chemicals are not receiving the review and study that they were meant to have. Today, a bipartisan bill, the Chemical Safety Improvement Act, is struggling in the U.S .Congress. It is designed to address the shortcomings of TSCA and provide the safety net that supposed to be provided by that law. This bill is far from perfect but it can be fixed and it deserves to be fixed.

Of more immediate interest are bills currently moving through Congress and the West Virginia Legislature that will provide for the regulation of above-ground storage tanks, much as underground storage tanks are regulated. I see this as a complimentary effort to the bill mentioned above. Ensuring that above-ground storage tanks are structurally sound and have adequate secondary containment seems like simple common sense today; but, before the Freedom Industries release, the general thought process was that if the material in a given tank wasn't regulated by any of the multitude of state or federal programs, then it was probably harmless to both the public health and the environment. The fallacy of that type of assumption is clear now.

Finally, the inability of the West Virginia American Water Company to shut down its system to let the pollution pass presented a challenge that was unforeseen by those responding to the spill. That is an issue for someone other than me to address but it certainly compounded the problem.

A positive note in this unfortunate episode has been the working relationships between various state and federal agencies. In particular, the relationship between DEP and the

Environmental Protection Agency has been one of mutual respect and cooperation. Decisions have been made cooperatively allowing the state and federal governments to speak with one voice to the public as well as the responsible party.

The Freedom Industries MCHM/PPH release caused approximately 300,000 people to be without water. People reportedly became ill. Pregnant women were advised not to drink the water. But, it could have been much worse. There are far more toxic and equally-unregulated chemicals in tanks throughout the country. Let this incident be a wake-up call for the entire nation.

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STATEMENT OF

JAMES J. GIANATO
DIRECTOR
WEST VIRGINIA DIVISION OF HOMELAND SECURITY
AND
EMERGENCY MANAGMENT

ON THE
CHARLESTON, WEST VIRGINIA
CHEMICAL SPILL

BEFORE THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES

CHARLESTON, WV
FEBRUARY 10, 2014

Good Morning, Mr Chairman, Ranking Member Rahall and distinguished Members of the Committee. Thank you for the opportunity to provide testimony on the role of the West Virginia Division of Homeland Security and Emergency Management in response to the chemical spill that occurred in Charleston, West Virginia, beginning on January 9, 2014. I am James J. Gianato, Director of the Division.

Initial Information

Early on the morning of January 9, 2014, West Virginia Department of Environmental Protection Air Quality Inspectors were called to investigate an odor complaint along U.S. 119 in the Mink Shoals area of Charleston, WV, which is about two miles northeast of downtown Charleston. By 11:00 AM, inspectors were able to trace the source of the odor to the Freedom Industries site at 1015 Barlow Drive in Charleston. While on site, the inspectors noticed there was liquid in the containment area of one of the tanks on site and directed representatives of Freedom Industries to notify the West Virginia Department of Environmental Protection Spill Hotline. At approximately 12:05 PM, the DEP spill hotline—which is managed by the Division of Homeland Security and Emergency Management—received the call from a Freedom Industries employee reporting that a hole had been discovered in a tank and material was observed leaking from the tank. The caller advised that the dike was containing the material at the time. The material was identified as 4 Methycyclohexane Methanol, more commonly referred to as MCHM. Reports on the quantity of MCHM that leaked from the site have varied from an initial report of 2500-5000 gallons to the current estimate of 10,000 gallons. During the early hours of this event, Kanawha County emergency personnel called the DHSEM office and requested the copies of the Tier II data filings for Freedom Industries. After conducting a document search, the forms were located. The forms were filed under the name of Etowah River Terminal—the name of the previous owner and not Freedom Industries. These documents were provided to Kanawha County Emergency Personnel.

At approximately 4:50 PM on January 9, I received a call from the West Virginia Department of Health and Human Resources- Bureau of Threat Preparedness advising that there would be a conference call at 5:00 PM to discuss an imminent announcement by West Virginia American Water that they were going to issue a “Do Not Use” order due to chemical contamination of their water treatment facility and system. We immediately identified and notified those who needed to be included on the call. Among those included were local emergency management, FEMA and the Governor’s Office. Our agency has been involved in planning for a catastrophic failure of the Bluestone Dam and the potential loss of the West Virginia American Water facility had been a part of that planning process. As a result of our prior planning, we immediately knew that the loss of the water facility would impact a large number of hospitals, schools, nursing homes, residences and businesses. The West Virginia American Water treatment facility and distribution system serves commercial and residential customers in a nine county region. It was

estimated that losing this water treatment facility would have a direct impact on over 100,000 customers. The interdependencies associated with this loss include hotels, restaurants, dairies, as well as farming facilities and many other industries that depend on potable water to safely operate.

Notification

Of primary importance was the dissemination of the DO NOT USE notification to the public and business communities served by WV American Water. This was performed through a variety of means, including the use of emergency text messages, print, electronic and social media outlets, and a press conference conducted by Governor Tomblin.

Initial Response

As a result of previous emergency response planning, we recognized that we did not have adequate resources to respond to an event of this scale and magnitude. Governor Tomblin immediately declared a State of Emergency for the nine counties impacted and the State Emergency Operations Center (SEOC) was fully activated. Key agencies including the National Guard, State Police, Department of Transportation, Department of Agriculture, Department of Environmental Protection, Department of Health and Human Services, Voluntary Agencies and FEMA Region III were called to staff the SEOC.

We quickly recognized the availability of bottled water in the affected area would be limited. Based on media and Law Enforcement reports, after the order was broadcast, citizens were rushing to stores to purchase water and the stock was quickly being depleted. We began the process of procuring water from a variety of sources. Having experienced similar resource shortage issues during the 2012 Derecho and Hurricane/Superstorm Sandy events, Governor Tomblin made an Emergency Declaration request to FEMA seeking support from the Federal Government. Over the next days and weeks, FEMA would provide over 456 trailers of water which is equivalent to over 8.6 million liters, and over 100,000 boxed meals which were essential to supplement the water purchased by the state and received by the numerous donors. Hundreds of thousands of gallons of water were donated by many individuals and businesses, and West Virginia American Water supplied trailers of bottled water and tanks of bulk water.

Immediately upon notice of the suspicion of contamination to the drinking water, the Division requested the activation of the West Virginia National Guard 35th Civil Support Team. This team which is a key resource to the State is a full time federally funded state asset specializing in Weapons of Mass Destruction and Chemical Biological Radiological Nuclear Explosive (CBRNE) response capabilities. The men and women of this unit have been deployed at the spill site since the initial hours of the event and they continue to serve. Over the course of the event, six additional Civil Support Teams from neighboring states Virginia, Kentucky, Tennessee, Ohio, the District of Columbia and Pennsylvania have participated in the water collection and testing protocols established for this event. To date, over 2400 samples have been collected and

evaluated. Initial testing was performed to screen to a Center for Disease Control (CDC) threshold of one part per million (1 ppm) of MCHM in drinking water. The CDC standard and water sampling protocol was conducted in the affected area broken down into twenty-six zones. All areas have been tested and cleared to that level.

Evolving Issues

Based on an understanding that the initial emergency event was requiring life-saving direct federal assistance was over, FEMA and the State closed the Incident Period for the Emergency Declaration on January 20. Although the incident period was closed, FEMA continued to supply the State with cost-shared water due to the large number of people still refusing to drink their tap water. In addition to Freedom Industry varying its estimation of material spilled and reaching the river, on January 21, 2014, 12 days into the event, the company advised DEP that an additional product, PPH, had been mixed with the MCHM and had leaked into the river as well. Little was known about PPH and we immediately began conducting research to identify the manufacturer and make contact with them to obtain the most current information on this product to share with the CDC and the interagency team that was involved in water sampling.

Upon learning that the second chemical PPH was in the MCHM that leaked, testing was done to check for PPH as well as MCHM in the water samples. In order to help build on the 1 part per million testing that was done, and to create a higher level of confidence in the safety of the water, systematic testing was done to clear all zones at a laboratory non-detectable level of ten parts per billion. That testing began with hospitals and has been expanded to schools as well as the pre-determined sites across the nine county area. As of today 26 out of 26 zones have been cleared at this threshold.

The Division is still coordinating with the National Guard and West Virginia American Water Company and continues to supply bottled and bulk water to citizens impacted by the event. The water distribution throughout this event has been a collaborative effort of multiple agencies at the Federal, State and local levels. Local agencies and volunteer groups have distributed water to individual citizens who could not travel to distribution sites. During the Derecho and Hurricane/Superstorm Sandy, social media provided a valuable tool to not only share information but to obtain information on citizen needs. In cooperation with the National Guard and the WV Intelligence Fusion Center, we built upon a capability utilized for these events and the National Boy Scout Jamboree to monitor and provide information on various social media platforms.

Recovery

As we continue to move forward, we must learn from this event. What happened in Charleston, West Virginia, could happen in any town or city in America that has a similar water system located in a similar geographic footprint. We must capture the many lessons learned using them as a catalyst to continue to strengthen our infrastructure security and resiliency posture. We will

use this event to more fully understand the interdependencies of our Critical Infrastructure, and to improve our statewide emergency response plans. We can never forget that all emergency events start at the local level and we have to provide our local officials and responders with the necessary resources and training to manage these threats and disasters.

I would be remiss if I did not recognize the numerous first responders at all levels that worked tirelessly on this response and continue to do so. I also want to thank the hard working men and women of the Division of Homeland Security and Emergency Management and all of the interagency partners that worked with us during this and every event. I also want to recognize the private sector partners who provided support to us and the many who donated water and supplies, as well as the many volunteers who worked tirelessly during the past month. I also feel it is important to recognize the Governor and his staff who worked diligently to support the agencies and the citizens of West Virginia. He has already appointed an after action review team to analyze our response and make recommendations for improvement. Our goal is to make sure an event like this never happens again; but if it does, we will be better prepared to respond and to mitigate it. Mr. Chairman, and other members of the committee, I thank you for inviting me to me here today. I will be glad to answer questions at the appropriate time.



STATE OF WEST VIRGINIA
DEPARTMENT OF HEALTH AND HUMAN RESOURCES
BUREAU FOR PUBLIC HEALTH

Earl Ray Tomblin
 Governor

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Karen L. Bowling
 Cabinet Secretary

Statement of Letitia E. Tierney, JD, MD, Commissioner for Public Health in the state of West Virginia and State Health Officer

Mr. Chairman, thank you. Congressman Rahall and Congresswoman Capito.

I am Dr. Letitia Tierney, State Health Officer and Commissioner of the Bureau for Public Health. I am both a physician and a lawyer and am licensed for both in West Virginia. Proudly, I was born and raised in West Virginia. My undergraduate degree and my medical degree are both from West Virginia University.

I am honored to be here today to represent the hard working men and women across the Bureau for Public Health who work daily on behalf of all West Virginians – from the healthiest to the most vulnerable of our population

As Commissioner and State Health Officer, my focus is on community health – assuring the safety and wellbeing of West Virginia's population. I very much appreciate the opportunity today to make a brief statement as to the Bureau for Public Health's role during the events that first began on January 9, 2014.

First, the mission of the Bureau for Public Health is to have healthy West Virginians in healthy communities and to shape the environments within which they can be safe and healthy. We rely on science and evidence-based medicine for virtually every decision we make.

This belief has guided the Bureau for Public Health's response. Let me walk you through some of the response activity that occurred from the Bureau.

From the time West Virginia American Water issued the Do Not Use advisory, the DHHR set up its Health and Medical Incident Command unit at the Center for Threat Preparedness. Experts from across the Bureau for Public Health and from our partner network were engaged in that command structure including physicians, environmental engineers, geologists, toxicologists, chemists, epidemiologists, disaster preparedness officials, water quality experts, nurses, pharmacists, and communication officials.

Immediately, we began reaching out to local health departments, hospitals, schools, and long term care facilities to quickly announce the discontinuation of all water use.

The Bureau's Office of Epidemiology and Prevention Services spearheaded plans to put into motion health surveillance across the 9-county area.

At the same time, we began collaborating with the West Virginia Poison Control Center which served as an informational resource for concerned residents. It is led by a doctor of pharmacy with significant experience in toxicology who served as an immediate resource for health care providers and the public alike, but also helped us track patients and their condition.

The Bureau's Office of Environmental Health Services began overseeing an interagency team led by the National Guard collecting water samples. The Bureau's Director of Infectious Disease Epidemiology reached out to the CDC to learn more about the chemical and to obtain guidance on a screening level for MCHM. The CDC's toxicologists developed a very conservative screening level for the drinking water, at 1 part per million (ppm).

Therefore, the Bureau for Public Health, on the advice of the CDC, set the threshold for lifting water zones at 24 hours of results at 1ppm or less. From the beginning a valuable collaboration made up of all stakeholders at the local, state and federal level was created, allowing for the timely sharing of information in order to provide the best possible service to our citizens. The water has been repeatedly sampled and tested at multiple points across the affected region – using split samples to ensure testing results were consistent at multiple labs including the Bureau's Office of Laboratory Services (OLS).

Seven days into the response, CDC issued a letter to the Department of Health and Human Resources suggesting an advisory be issued to pregnant women to not drink the water until the MCHM results were at undetectable levels, out of an abundance of caution.

The Bureau for Public Health asked CDC to clarify their advisory. It was explained that all populations, including pregnant women were included in the original assessment of the screening level of 1 ppm. The 1ppm screening level was set at a very conservative level. However, CDC explained that the advisory was precautionary and issued only out of an abundance of caution. In this case, the CDC stated that they wanted to put the power of the decision back in the hands of the pregnant women and that was the point of the advisory.

Then nearly two weeks into this event we were informed that Freedom Industries had reported to EPA a second chemical, PPH stripped, was also spilled into the river on January 9th. This chemical was stored in the same tank and was estimated to be approximately 7% of the total volume. The intra-agency team went back and retested historic water samples. The CDC and their partners also rolled up their sleeves and went back to work to help us obtain critical data on the PPH. This was complicated by Freedom who initially providing us with the incorrect MSDS which resulted in a delay in obtaining the appropriate screening level from our federal partners. Fortunately, virtually every sample tested for the PPH was at non-detectable levels.

Today, the Bureau for Public Health continues to oversee water testing. However, the public confidence level in the water quality is still low.

Moving forward, the Bureau for Public Health will continue to work on health and community assessments. Hospital surveillance began within 24 hours. Now, we are working with the CDC to initiate a community assessment study. This, with the health surveillance we initiated within the first 24 hours of the event are the first steps. Once these data sets are fully assessed, then we will be able to use a more reasoned approach to evaluating the best method for population surveillance for possible long term effects. Rushing into a decision is not in the best

interest of Public Health and this is not something we want to get wrong. We want to make sure that our surveillance, whether it be research, a registry or other method, will yield us the data we seek in a statistically significant and reliable manner.

This is the heart of the mission of the Bureau for Public Health. This is what we do every day. We have been actively engaged in this event since day one and for us, our job is really just beginning. Water is fundamental and impacts every part of our life and the things we hold near and dear to our hearts in West Virginia.

In closing, I want to thank you for your time and attention. We all appreciate the work that you are doing on this important Committee. Please know that both my staff and I are available to you at any time. Ultimately we are all on the same team and have the same goal which is to keep West Virginia safe and provide healthy communities.

CABELL COUNTY EMERGENCY SERVICES
INCIDENT/AFTER ACTION REPORT
CULLODEN CONTAMINATED WATER EVENT

INCIDENT

During the afternoon hours of January 9, 2014 A. Gordon Merry III, Director of Cabell County Emergency Services, began receiving reports, through local media outlets, of a Chemical Spill in the Elk River. Cabell County was not initially included in the affected area. But out of an abundance of caution Gordon Merry contacted Jerry Beckett, Cabell County Emergency Operations Planner, to discuss/make plans in the event the Cabell County became included in the emerging situation.

The information as it was known at that time was given to the Director of Communications for the City of Huntington, Brian Chambers, to place on "Heads Up Huntington".

Sometime later that evening a representative from the WV Governor's Office notified the Cabell County Commission that Cabell County had been included in the "spill event" and suggested that they notify the appropriate people in their county.

RESPONSE

January 9, 2014

The issues regarding affected water customers were restricted to the eastern portion of Cabell County, for that reason the Culloden Volunteer Fire Department was asked for their assistance in being a water distribution site. That evening the Huntington Area Food bank had been notified of the situation and a request made for bottled water. The Food Bank brought all the bottled water and Sports Drinks that they had on hand to the CVFD for distribution.

Cabell County Emergency Services brought a four hundred (400) gallon military "water buffalo" to the CVFD. This provided the ability to fill containers brought in by the public. The Town of Milton and Mayor Tom Canterbury were notified and a request was made for the Town of Milton Water Department to fill the "buffalo". (It should be noted that the Town of Milton Water Department supplied the water to fill this water buffalo as well as the WVANG water buffalo during this situation.)

Gordon Merry notified Sheriff Tom McComas of the developing situation and discussed the potential of problems/panic at the CVFD distribution site. Sheriff McComas immediately dispatched deputies to secure the water distribution site. These deputies remained at the distribution site for security until the site was closed.

Gordon Merry contacted the Cabell County Commission concerning the situation and response to that point. The Commission gave Mr. Merry the authorization to do what needed to be done to ensure the residents of the Culloden area had access to safe water.

The State of WV EOC had been stood up and communications were established between that entity and Cabell County. There was not a firm time line as to the arrival of water from state or FEMA resources.

JANUARY 10, 2014

Due to the lack of available water in Cabell and surrounding counties by private vendors a decision was made to send two Cabell County EMS employees to Louisa, KY to purchase bottled water and hand sanitizer. Since there was no estimated ETA on emergency sources, a Cabell County Sheriff's Department vehicle was loaded with the water and hand sanitizer and routed immediately to Culloden Volunteer Fire Department for distribution.

Gordon Merry and Sheriff McComas went to Eagle Distributing in west Huntington to explore the possibility of a donation of canned water from the Anheuser Busch Brewing Company. Representatives from Eagle were able to secure the contribution and the ETA would be Sunday morning January 12, 2014. Eagle paid for the shipping cost as well as providing staff and equipment to offload the 2200 cases canned water.

Several attempts were made to contact representatives of WV American Water with negative results.

Bottled water and a military "water buffalo" were delivered by the WV Army National Guard to the CVFD. These deliveries continued upon request during the duration of the situation.

JANUARY 11, 2014

Gordon Merry and Sheriff McComas drove two Sheriff's Department 5 ton trucks to Eagle Distributing to pick up the 2200 cases of canned water and delivered it to the CVFD for distribution.

JANUARY 12-18, 2014

CVFD maintained this distribution site passing out bottled water as provided by the State of WV/FEMA and delivered by the WVANG.

This report in no way documents all of the things that were done to ensure that the residence of eastern Cabell County had safe water rather the process by which the distribution site and water was obtained. While it would be impossible to mention all of the people, entities, and resources that assisted in this situation below is a list of some that did assist.

RESOURCES/ENTITIES UTILIZED INCLUDE

- Culloden Volunteer Fire Department and Staff - distribution site operations
- Culloden Elementary Staff - assisting with distributing water
- Huntington Area Food Bank - donation of bottled water/sport drinks
- Cabell County Sheriff's Department - site security and equipment
- Eagle Distributing - donation of canned water
- Hurricane Equipment - loaned a tow motor to off load palliated water
- Tower Grocery Store Culloden - loaned a floor jack to move water
- Cabell County Emergency Services - staff and equipment
- 84 Lumber Milton - off loaded water with their tow motor
- The Town of Milton and Mayor Tom Canterbury - provide water to residence of Culloden and filling of water buffalos. (Approximately 1600 gallons a day)
- WV Army National Guard Unit 1257 - transportation of bottled water

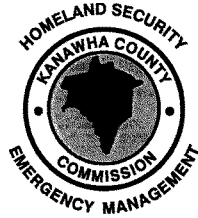
LESSONS LEARNED

The key component of success in any emergency situation is communication.

Attempts to contact representatives of WV American by Cabell County Emergency Services personnel were unsuccessful. Cabell County Emergency officials realize that our citizens were just a small part of this situation, however members of our emergency planning staff had dealt with a similar crisis in 1988 involving a chemical spill in Pittsburgh, PA. These staff members were present when a pipe from the Chessie System, formerly C & O Railroad, was used to supply water from an alternate source to the treatment plant in Huntington from the Guyandotte River. The Cabell County planning team felt that may be information not known to WV American Water and could have been beneficial to their staff.

Notifications of future emergency situations should be made directly to each County Director of Emergency Services.

This incident underscored the need for local governments to prepare to handle the situation for 48 to 72 hours before State and Federal assistance is available.



Dale A. Petry, Director

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TESTIMONY OF: Dale Petry, Director
Kanawha County Homeland Security and Emergency Management

DATE: Monday, February 10, 2014

BEFORE: United States House of Representatives
Committee on Transportation and Infrastructure

REGARDING: The Charleston, West Virginia Chemical Spill of January 9, 2014

INTRODUCTION

I would first like to thank the distinguished members of the House of Representatives Committee on Transportation and Infrastructure for inviting me to speak this morning. I am appearing before the committee in my capacity as Director of Kanawha County Department of Homeland Security and Emergency Management.

My primary purpose for testifying today is to offer a timeline of events that occurred on January 9, 2014 as it relates to the chemical spill at Freedom Industries that ultimately resulted in a "Do Not Use" Advisory being issued for customers of West Virginia American Water in Kanawha County and 8 other counties.

EXECUTIVE SUMMARY

On January 9, 2014 at approximately 10:00 a.m., calls were received by Metro 911, reporting a chemical odor in the area of I-77 and I-79 split. Metro 911 notified Emergency responders of the call and C.W. Sigman, Deputy Director and Fire Coordinator for Kanawha County Department of Homeland Security and Emergency Management and Fire Department officials responded to the area of Route 119 to Eden's Fork to Mink Shoals and along Pennsylvania Avenue to look for a possible leaking truck. While responding to these areas, emergency officials could smell a licorice smell in the air. Units returned to service within 30 minutes of the original call to Metro as they could not locate the source.

At approximately, 10:30 a.m., Mr. Sigman returned to the Emergency Management Office and notified me of the smell in the air and described it as a licorice smell. I told him to check the old Pennzoil Bulk Plant on Barlow Drive, as I was familiar with the plant being a possible source for a chemical with that smell. Mr. Sigman retrieved the Tier II data for the Etawah River Plant on Barlow Drive before going to the site. Upon arriving on Barlow Drive, Mr. Sigman found a Diversified Services Truck leaving Barlow Drive. There had been previous complaints on this company in the St. Albans area and he suspected that the truck could be the source of the smell.

Mr. Sigman then continued to Freedom Industries, where he found two West Virginia Department of Environmental Protection (DEP), Division of Air Quality personnel onsite. DEP officials reported to Mr. Sigman that they had received odor complaint calls at DEP and they responded to the site, and there had been a small spill of Crude MCHM and they would talk to facility leaders regarding the matter. Mr. Sigman provided DEP with a copy of the Tier II report

Presentation to the House Committee on Transportation and Infrastructure
Dale Petry, Director of Kanawha County Department of Homeland Security and Emergency Management
Monday, February 10, 2014
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and MSDS for the chemical. Mr. Sigman, then left the scene as DEP officials said they were handling the situation.

At approximately 11:30 a.m., my staff issued a media release stating there had been a leak of MCHM at the Freedom Industries site and DEP was on scene and at the time. The media release described the product and its usage.

At approximately 1:30 p.m., Mr. Sigman then received a call from Mike Dorsey with DEP. Mr. Dorsey told him the spill may be larger than originally thought and it may have leaked into the river.

Mr. Sigman, on his way back to Freedom Industries, checked the Elk River where it flows into the Kanawha for any indication of the spill. There were no smells or indications of any contaminants by looking. There were ice flows on the river.

At approximately 2:00 p.m., Grant Gunnoe, Charleston Director of Homeland Security and Emergency Management and Mr. Sigman returned to the site of Freedom Industries with Mr. Sigman and they met with DEP officials. DEP officials showed them efforts being made to contain the leak. Absorbent pads had been placed around the outside of the containment. A West Virginia American Water Company representative was onsite as well. The representative stated that they would put on extra carbon beds to capture any of the material at the water company plant.

An official from Freedom Industries was onsite as well and identified himself as Dennis Ferrell, President of Freedom Industries. We asked him how much of the material had been leaked. Mr. Ferrell stated, "not much" and that they would have to weigh the amounts removed from the tank already and deduct that from the inventory to determine the amount that leaked.

Mr. Sigman and Mr. Gunnoe asked DEP Officials if they needed any further assistance from Emergency Management and they were told no. They further asked if any notification needed to be made to the public and they were also told no. Mr. Sigman and Mr. Gunnoe then returned to their respective offices.

At 4:30 p.m., Mr. Sigman received a call from Anita Ray at the Kanawha-Charleston Health Department stating they were receiving calls of a licorice type taste in the drinking water. The Health Department was contacting the Water Company to report the information. Mr. Sigman then made County Management aware of the situation and further contacted the WV Department of Homeland Security and Emergency Management to make them aware of the situation.

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The Kanawha County Commission was getting ready to go into regular session for a meeting, Mr. Sigman and I then met with the Commission President and County Manager and notified them that a conference call was being conducted at 5:00 p.m. by the State of WV. Mr. Sigman and I participated in the conference call. To our knowledge, WV American Water Company and State Officials were on the call. The call resulted in a "Do Not Use" Advisory being issued for all WV American Water Company customers in the Kanawha Valley. Kanawha County was asked to notify the public of this action.

I immediately reported to the Commissioners that the "Do Not Use" Advisory had been issued and was directed to activate the Emergency Broadcast System, Swift Reach (our direct dial system to citizens of Kanawha County) and media notifications via Metro 911 to notify the public.

I immediately activated our Emergency Operations Center at a Rapid Response Team level. This allows for members of all emergency response agencies to immediately gather at the Metro 911 building to begin coordinating efforts to respond to the situation. The Commission President immediately recommended that we contact Dr. Rahul Gupta, the Chief Health Officer for Kanawha-Charleston Health Department to make him aware of the situation. Dr. Gupta's staff is also on the call-out team for the Rapid Response Team.

On my way to Metro 911, I authorized staff to increase response team and notify our Level 1 Response Team to respond to our Emergency Operations Center. This allowed for additional support in the Emergency Operations Center to handle the calls from the public as well as the coordination of resources.

Mr. Sigman, from the MSDS report and Tier II report was able to determine that Eastman was the manufacturer of the MCHM and facilitated a conference call with Eastman Officials, WV American Water Company, DHHR, and other emergency officials at 8:00 p.m. to discuss the chemical properties. Eastman reported to all officials that the product was relatively soluble and should wash through the system and was readily biodegradable and odor and taste were the bigger issue.

We immediately began requesting water through the WV Department of Homeland Security through the E-Team System. The water company made available water tankers and water buffaloes to be immediately used at hospitals that did not already have an ample supply of potable water. The airport put us in contact with a local vendor who had bottled water stored and we immediately arranged for delivery of the bottled water to hospitals and nursing homes, as our primary focus were hospitals, nursing homes, and medical issues.

The Water Company and National Guard provided water tankers and water buffaloes that required citizens to bring their own containers to fill and we had 4 sites opened by 9:30 a.m. on Friday, January 10th for the public to begin using.

We were contacted by other states and businesses wanting to immediately donate bottled water to the County. As tractor trailers of water began to arrive from donations and FEMA, we began setting up distribution points for the public to obtain bottled water once we had handled the immediate medical facility needs.

By 10:00 p.m. on Friday, January 10th, we received confirmation of bottled water being received and were able to notify the public of 17 distribution sites that would open at 8:00 a.m. on the following morning, Saturday, January 11th. We have continued water distribution since that time through resources obtained by FEMA and the water company. Bulk Water sites were still be used in Kanawha County as of, Friday, February 7, 2014.

On Saturday, January 11th, Kanawha County was requested to be a member of the Interagency Team that was working out of the West Virginia American Water Company Command Center with the National Guard. Mr. Sigman, was our representative at the Command Center. Mr. Sigman, while onsite, assisted in the coordination of resources at the request of the National Guard and WV American Water Company.

Our role in the response to the incident was communicating with our citizens, delivering water to the public through distribution, as well as delivery to elderly homes, nursing homes and those in great medical need. Our response agencies, including our Emergency Management Team, Kanawha County Ambulance Authority, Kanawha Valley Transportation Authority, Kanawha-Charleston Health Department, Kanawha County Sheriff's Department, Municipal Police Department, 27 Volunteer Fire Departments, Municipal Fire Departments, Metro 911 and many others worked and continue to work day and night to try to meet the requested needs of the citizens of the County during this water crisis. The Emergency Management Office is not a regulatory agency nor an investigatory agency. These roles are generally handled by Federal and State agencies.

The Kanawha County Department of Homeland Security and Emergency Management currently follows the Kanawha-Putnam All Hazards Emergency Response Plan for emergencies throughout the County. The Plan was used during this emergency, specifically the Water Emergency Annex.

POST SCRIPT

One of our most important roles in this situation was to ensure the public was notified of the "Do Not Use" Advisory being issued for the water system. While we did immediately activate our systems for notification, we did not use the Wireless Emergency Alert System recently approved for notification via cell phones. We are adding protocol to our plan to ensure this step is taken in future emergencies. This would have been another level of notification to the public of the event.

We immediately learned that some of our hospitals and facilities were prepared for this event, as they already had bulk and bottled water onsite. However, not all hospitals and facilities were prepared. We will work with these agencies to help them put into place a plan to have potable water on hand at all times so they can continue to handle their emergency response.

We will work with Charleston Housing and other assisted living facilities throughout the county to develop a better list of contacts for our senior homes, low income housing and care facilities to contact during an emergency to determine their needs for assistance.

We will work with the public to better educate them on emergency preparedness and notifications. We will work with local businesses and community groups to conduct more Kan-Plan presentations on Emergency Preparedness for families and businesses.

Thank you for inviting me to testify before the Committee. Respectfully, submitted:

Dale Petry, Director
Kanawha County Department of
Homeland Security and Emergency
Management
Kanawha County Commission

House Transportation and Infrastructure Committee
Field Hearing - Charleston, West Virginia
The Charleston, West Virginia Chemical Spill
February 10, 2014

Testimony of Jeffrey L. McIntyre
President, West Virginia American Water

Mr. Chairman, Mr. Rahall, and Ms. Capito,

Thank you for the opportunity to be here today. My name is Jeff McIntyre and I am the President of West Virginia American Water. I have served in this position since March of 2012 and have been with the parent company for nearly 12 years. West Virginia American Water has been serving West Virginians since 1886. Today, approximately 283 employees operate multiple systems and nine water treatment plants, providing water services to 171,000 customers, which include approximately 550,000 individuals or roughly one-third of the state's population. As the steward of a water system that serves more than 300,000 people in the Kanawha Valley, we take our responsibility of providing clean, safe water very seriously. It is our #1 priority in every decision we make.

West Virginia American Water and our parent company, American Water, are proud of our environmental record. At the national level, based on current information from the U.S. Environmental Protection Agency (USEPA), American Water performs 20 times better than the industry average for compliance with drinking water quality standards and 150 times better than the industry average for compliance with drinking water reporting and monitoring requirements. American Water's water quality performance is also seen in how few drinking water notices of violation (NOVs) are issued to its over 300 drinking water systems nationwide. If American Water's systems had performed like the average drinking water system in the U.S., they would have received over 525 drinking water NOVs in 2013. Instead, American Water received six drinking water NOVs as a company nationwide, and none of those NOVs was issued here in West Virginia.

I would like to give my sincere and heartfelt thanks to the West Virginia Department of Health and Human Resources, the West Virginia Bureau of Public Health, and the West Virginia National Guard, as well as the other agencies, companies, and subject matter experts who were our essential and capable partners in the wake of the Freedom Industries chemical spill.

The Freedom Industries Chemical Spill

I am including a timeline but would like to provide highlights in my testimony.

On January 9th an undetermined amount of 4-Methylcyclohexanemethanol (MCHM) leaked into the Elk River from an above ground storage tank at a Freedom Industries facility, located about 1.5 miles above our Kanawha Valley water treatment plant.

We first learned of the Freedom Industries spill from the West Virginia Department of Environmental Protection. We then took immediate steps to gather more information about the chemical, augment our treatment processes in the Kanawha Valley plant and begin consultations with federal, state, and local public health officials.

After our water quality team determined that the augmented treatment process was not fully removing the chemical, we reached a joint decision with the West Virginia Bureau for Public Health to issue a "Do Not Use" order to all customers of our Kanawha Valley system.

As of January 9th the Kanawha Valley system had experienced a significant number of line breaks caused by extreme cold associated with the polar vortex followed by warming weather. Because of the line breaks and customers running their tap to prevent freezing, system storage was low and losing water even though the water treatment plant was running at near full capacity. Our best judgment, based on these circumstances, was that shutting down the plant would quickly result in the loss of the entire distribution system, meaning no water would have been available for any purposes. Further, starting the plant back up after the chemical leak was stopped or contained, then replenishing and re-pressurizing the entire Kanawha Valley distribution system would have taken more than a one month even under optimum conditions. After considering the existing circumstances and potential options, we and the West Virginia Bureau for Public Health determined that the best course of action was to keep the water treatment plant running and institute the "Do Not Use" for several critical reasons:

1. In addition to loss of water for drinking, cooking and bathing, a shutdown would have quickly resulted in the loss of basic sanitation capabilities for approximately 300,000 people;
2. A shutdown would also have quickly resulted in a loss of fire protection (*e.g.*, no water pressure to fire hydrants and sprinkler systems) in the 9 counties we serve;
3. We had no way, at that time, to determine or estimate the duration of the chemical spill or resulting plume that would affect the water treatment plant; and
4. Shutting down the plant, losing the system, then re-starting it would have been a prolonged, difficult process, keeping customers out of water for any use for a substantially longer period of time than the actual period that the "Do Not Use" order was in place. Restarting after system loss would have required us to use chlorinated water to disinfect pipes that had been depressurized and exposed to air, flush that chlorinated water, and refill and re-pressurize this highly complex system with approximately 1,900 miles of mains, more than 100 water storage tanks, and 179 pressure zones.

On Jan. 10, the West Virginia Bureau for Public Health received guidance from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention (USCDC) and confirmation from the USEPA that a maximum level of 1 part per million (ppm) of MCHM would be protective of public health. From the initial spill until today, we have conducted extensive and continuous testing of water in the impacted areas, including the river's raw water, finished water leaving the Kanawha Valley plant, and hundreds of points throughout the distribution system.

Levels of MCHM in the river's raw water and the plant's finished, treated water have been at less than the USCDC designated "protective of public health" level (1 ppm) since January 13.

On January 15, based on additional guidance from the USCDC, we issued another advisory for pregnant women to consider an alternative drinking water source until the chemical was at a "non-detect" level throughout the water distribution system.

On January 17th, Freedom Industries filed for Chapter 11 bankruptcy protection. West Virginia American Water, on behalf of itself and its customers, objected to certain parts of the filing on the following grounds: that the chemical supplier was (1) concealing its true ownership, (2) using a proposed emergency loan to put creditors at a disadvantage, and (3) generally failing to provide the bankruptcy court with sufficient financial information about matters such as Freedom Industries' insurance coverage.

In its bankruptcy filing, Freedom Industries suggested that a water main break had contributed to the hole in its above ground chemical tank. That suggestion is wrong for several reasons: First, to our knowledge, the first report that "water was flowing" on Freedom's property came from the West Virginia Department of Environmental Protection on Monday, January 13, four days after the chemical spill. Second, my understanding is that our personnel went to the Freedom site on January 13 after getting this report and our leak detection equipment did not detect a leak on our main. Third, we have also been informed by the West Virginia Department of Environmental Protection that a flow of water exists at the Freedom Industries' site that originates at an artesian spring from which water flows at a rate of about 10 gallons per minute.

On January 18, following extensive, around-the-clock testing throughout the system, the last area under the "Do Not Use" order was lifted. We will continue to flush the system and test water at designated locations, determined jointly by West Virginia American Water and the West Virginia Bureau of Public Health, until MCHM levels are non-detectable (less than 10 ppb or 0.01 ppm) at all designated sampling locations throughout the distribution system.

On January 21, fully twelve days after the MCHM spill, Freedom Industries informed the West Virginia Department of Environmental Protection of the presence of a second chemical in the spill: a proprietary mixture of glycol ethers known as PPH. Since this disclosure, a group of chemists, researchers, regulators, health organizations and commercial laboratories including: the US CDC, the USEPA, the U.S. Department of Health and Human Services Agency for Toxic Substances & Disease Registry, the U.S. Health and Human Services National Institutes of Health, the West Virginia Bureau for Public Health, the West Virginia Department of Health and Human Resources, the National Guard, the Mid-Atlantic Technology, Research & Innovation Center, the Research Environmental Industrial Consultants Inc., DuPont, the Dow Chemical Company, and West Virginia American Water have collaborated in the development of a method of detection for PPH at the parts per billion level. Even at this minute detection level, only two samples out of 300 samples that have been tested have shown any trace of PPH, and both of those samples were taken after all customers were already under the "Do Not Use" order.

I would like to underscore West Virginia American Water's focus during the Freedom Industries chemical spill and aftermath:

1. Safety is our #1 priority. Throughout this event, our primary focus has been and remains the safety of our customers and employees.
2. Continuous sampling, testing, and treatment is critical. During emergency events like this one, we evaluate the source water entering the system, treat it as deemed necessary or appropriate, and take additional corrective or protective measures--such as "boil water" advisories and "DO NOT USE" orders such as the one that was implemented here--if necessary. For example, we have performed

more than 2,500 analyses since the Freedom Industries chemical spill. We also operate as part of the emergency response team alongside local, state, and federal authorities.

3. Our present objective is no detectable MCHM in the distribution system water. As noted above, we are continuing to flush and sample water throughout the distribution system until there is a non-detect level of MCHM (less than 10 parts per billion) at all of the sample locations.
4. We are partnering with local, state and federal officials. We remain fully committed to working with federal, state, and local authorities to provide information, address concerns, and protect our customer's tap water.
5. We strive to provide our customers with nothing less than clean, safe drinking water. We will work with the state health authorities to assure our customers in the Kanawha Valley that their water is both clean and in full compliance with all applicable Safe Drinking Water Act standards and requirements.

Aiding Our Customers

I would like to share with you some of our efforts to help customers affected by the Freedom Industries chemical spill.

When emergency response efforts began following the chemical spill on Jan. 9, West Virginia American Water immediately deployed 14 water tankers and 6 truckloads of bottled water to assist as bulk water distribution sites, including 16,000 gallons of bulk water from Pennsylvania American Water. I particularly want to thank Pennsylvania American Water and its employees for their support and contribution to our efforts. We also purchased two additional 7,000 gallon bulk tanker trailers, which arrived on January 30 and were made available on February 1 after being licensed, having undergone food-grade washes and distribution headers manufactured.

On January 30, I received a written request from West Virginia Governor Earl Ray Tomblin for additional bottled water resources for the communities we serve. At the time this letter was received, West Virginia American Water had already committed to procuring 20 additional tractor-trailer loads of bottled water at the request of the Governor via a phone call earlier that day. This brought West Virginia American Water's total bottled water contribution to 33 truckloads.

All bottled and bulk water contributed by West Virginia American Water has been and will continue to be coordinated through the state and the West Virginia National Guard for deployment.

We will also provide residential customers with a 1,000 gallon credit to allow them to flush their water system without cost. This equates to approximately ten days of normal water usage for the average residential customer of West Virginia American Water. The maximum water flow through a standard residential 5/8-inch meter is 20 gallons per minute. Flushing guidelines provided by the West Virginia American Water instructed customers to flush for a total of 25 minutes, which would use approximately 500 gallons. The credit being offered accounts for double this amount. In addition, to aid small business customers in this difficult time, a financial credit equivalent to 2,000 gallons will be provided to approximately 5,280 commercial customers. This credit not only recognizes the size of these commercial establishments but also their need for additional cleansing requirements.

Communicating with Our Customers

Throughout this event, we have striven for transparency and open communication with our customers. To accomplish this, we implemented a number of communication changes.

- We created a hotline for West Virginia customers that was staffed 24/7 by twenty West Virginia American Water employees, including temporary employees, to answer specific questions regarding the lifting of zones.
- To better manage the call volume for our West Virginia customers, we made changes at our national call center in Illinois. Beginning January 12th, we rated the West Virginia calls “#1 priority”, along with other water emergencies throughout the country. As a result, the average speed of answer for West Virginia customers from January 12th through January 19th was 18 seconds. This was substantially shorter than the average wait for non-emergency calls outside West Virginia during a period of record cold temperatures throughout much of the U.S.
- We created an interactive web-based map for West Virginia customers to determine when the Do Not Use was lifted for their zone. This map has received more than 2 million views and was extremely valuable in communicating with our customers. It was developed by American Water's Information Technology department in coordination with West Virginia American Water's engineering department in only two days. The map enabled customers to view the status of their zone so they could know when the advisory had been lifted for their area and they could begin flushing. The map was Geographic Information System (GIS)-based, and customers could type their addresses in a search bar to get the most accurate information.
- We had multiple resources managing both our social media outreach as well as our website that housed the interactive lift zone map. We believe these were valuable tools. When comparing activity in the days before the event to the days after, our Facebook average total reach went from about 800 to 62,000. Our website had nearly one million visits during that period.
- We implemented automated calls using information from our customer account database to alert customers of the initial “Do Not Use” order and, later, the status of the zones as the order was lifted.
- We posted on our website instructions for customers to flush their plumbing on the customer's side of the meter.
- We created an infographic on our website to better help our customers understand our complex system of pressure gradients (*i.e.*, zones).

Conclusion

West Virginia American Water has always supported laws and regulations that promote safe drinking water and has an outstanding record of compliance with these requirements. We are committed to working with state and federal officials to protect the public from threats to safe drinking water.

Thank you for the opportunity to appear before the committee.

Timeline of West Virginia American Water's
Response to the Freedom Industries Elk River Chemical Spill

Thursday, Jan. 9

- West Virginia Department of Environmental Protection notified the Kanawha Valley Water Treatment Plant of the leak from the Freedom Industries facility -- company took immediate action to determine its impact on water sources.
- West Virginia American Water worked with various state agencies to issue a "Do Not Use," order to all customers who receive their water service from this plant (approximately 95,000 customers throughout parts of Boone, Cabell, Clay, Jackson, Kanawha, Lincoln, Logan, Putnam, and Roane counties).
- Interagency team formed and commenced 24/7 response. West Virginia American Water initiated water tanker deployment and purchased truckloads of bottled water for water distribution sites.
- Subject matter experts from DuPont and American Water worked overnight and into Friday to develop a standard method of measuring MCHM in water.

Friday, Jan. 10

- West Virginia American Water continued work with state environmental and toxicology experts to understand the impact of the chemical contamination.
- Laboratories were identified and set up and equipment calibrated while the West Virginia American Water team began establishing a plan for systematic, representative water sampling of the distribution system.
- The West Virginia Bureau for Public Health received guidance from the USCDC and confirmation from the USEPA that a level of 1 ppm for MCHM would be protective of public health.

Saturday, Jan. 11

- An interagency team command post was set up at the Kanawha Valley Water Treatment Plant, comprised of West Virginia American Water employees, National Guard members and representatives from the West Virginia Bureau for Public Health, West Virginia Department of Environmental Protection and Kanawha County.
- An interagency water sample collecting and testing procedure based on hydraulic modeling of the water system was confirmed and communicated to all agencies involved.
- West Virginia American Water communicated that flushing and sampling beginning at a central location and moving out to the far ends of the distribution system was expected to take several days.

Sunday, Jan. 12

- American Water's IT and GIS team developed an interactive online map of the affected service area broken up by pressure zones in preparation for communicating areas that would be cleared for flushing.
- West Virginia American Water announced that the ban would be lifted in a strict, methodical manner to help ensure that the water system would not be overwhelmed by excessive demand, thereby causing more water quality and service issues.
- Customer flushing guidelines were developed by West Virginia American Water and finalized by the West Virginia Department of Health and Human Resources in preparation for the sequenced lifting the "Do Not Use" order.
- West Virginia American Water announced that it would offer customers a billing credit of 1000 gallons, which should be more than enough to flush the average residential home.

Monday, Jan. 13

- "Do Not Use" order lifted for approximately 25,000 customers (approximately 26% of customer and 50-60% of water usage system-wide), including all hospitals except for Boone Memorial Hospital.
- Automated phone calls were launched in coordination with a map for lifted zones. West Virginia American Water established a temporary local 24/7 hotline to provide additional clarification regarding lifted areas.
- The Kanawha Valley Water Treatment Plant's effluent water test results consistently reported non-detectable levels of MCHM beginning this evening.

Tuesday, Jan. 14

- "Do Not Use" order lifted for additional areas. Cumulative total of 48,000 customers (approximately 50%) restored to date.
- An infographic was designed to educate customers on pressure zones and explain why areas were being cleared systematically.

Wednesday, Jan. 15

- "Do Not Use" order lifted for additional areas. Cumulative total of 56,800 customers (approximately 60%) restored to date.
- Around mid-morning, West Virginia American Water received notice that the US CDC was reevaluating its guidance on the level of MCHM that is protective of public health. Recovery efforts associated with lifting additional zones were temporarily placed on hold for a large part of the day until the West Virginia Department of Health and Human Resources received revised guidance in writing.
- This revised US CDC guidance confirmed the 1ppm threshold, but added an extra level of protection for pregnant women. Customers were advised of this new guidance through the media and West Virginia American Water communications.

Thursday, Jan. 16

- “Do Not Use” order was lifted for additional areas. Cumulative total of 71,000 customers (approximately 75%) restored to date.
- West Virginia American Water issued a statement that lifts would be limited due to excessive flushing activities that diminished water storage needed to move forward with the recovery efforts.

Friday, Jan. 17

- Early this morning, customers in certain locations were advised to not drink and have limited contact with their water until additional water quality sampling data could be verified. Additional flushing and sampling was conducted.
- “Do Not Use” order was lifted for additional areas. By this afternoon, all customer areas had been lifted for flushing except those subject to the morning advisory.

Saturday, Jan. 18

- The re-issued advisory for the remaining areas was lifted. No customers remain on a “Do Not Use” order. The USCDC’s guidance for pregnant women remains in place as an extra precaution for pregnant women.
- Interagency team moves into next phase of system testing at the parts per billion (ppb) non-detect threshold of 10 ppb (0.01 ppm).
- All area hospitals except Boone Memorial and the Charleston Area Medical Center Dialysis Unit (for which we are still awaiting final test results), returned samples results of non-detect.

Sunday, Jan. 19

- West Virginia American Water creates an “Our Next Steps” FAQ sheet to address frequent customer questions.

Tuesday, Jan. 21

- Freedom discloses to West Virginia Department of Environmental Protection that a second chemical, “PPH,” was leaked with MCHM during the Jan. 9 spill. West Virginia American Water immediately engages MATRIC and Huntington labs to begin developing a protocol to measure PPH in water samples taken both before and after the “Do Not Use” ban was lifted.

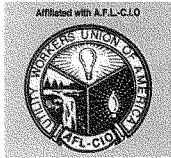
Wednesday, Jan. 22

- Labs provide updates on PPH testing. Initial results indicate non-detectable levels, but further testing continues to determine the lowest possible detection limit.

Jan. 22 to present

- West Virginia American Water continues to flush the system and test water at designated locations, determined jointly by West Virginia American Water and the West Virginia Bureau of Public Health, until MCHM levels are non-detectable (less than 10 ppb (0.01 ppm)) at all designated sampling locations throughout the distribution system.

UTILITY WORKERS UNION OF AMERICA

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| D. MICHAEL LANGFORD PRESIDENT GARY M. RUFFNER SECRETARY-TREASURER | STEVEN VANSLOOTEN EXECUTIVE VICE PRESIDENT JOHN DUFFY VICE PRESIDENT |  <p>Affiliated with A.F.L.-C.I.O.</p> <p>615 SIXTEENTH STREET, N.W. WASHINGTON, D.C. 20006 (202) 974-8200 (202) 974-8201 FAX www.uwua.net</p> |
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March 10, 2014

The Honorable Nick J. Rahall II
Ranking Member
U.S. House Committee on Transportation and Infrastructure
2307 Rayburn House Office Building
Washington, DC 20515

Re: West Virginia Chemical Spill

Dear Congressman Rahall:

I am writing on behalf of the Utility Workers Union of America to forward our comments concerning the recent chemical spill into the Elk River. As you may know, we represent workers at West Virginia-American Water, as well as 2,500 other employees of American Water across the U.S.

The UWUA respectfully requests that our comments be entered into the record for the recent field hearing conducted by the Subcommittee on Water Resources and Environment on this matter on February 10 in Charleston.

Thank you for this opportunity to present our comments, and please let me know if you have any questions concerning our position in this matter.

Sincerely,



D. Michael Langford
National President

(cc list on page 2)

UTILITY WORKERS UNION OF AMERICA, A.F.L.-C.I.O.

The Honorable Nick J. Rahall II
 March 10, 2014
 Page 2

cc: The Honorable Earl Ray Tomblin, Governor of West Virginia
 The Honorable Jay Rockefeller, U.S. Senator for West Virginia
 The Honorable Joe Manchin, U.S. Senator for West Virginia
 The Honorable Patrick Morrisey, Attorney General of West Virginia
 The Honorable Natalie E. Tennant, Secretary of State of West Virginia
 The Honorable Michael A. Albert, Chairman, West Virginia Public Service Commission
 The Honorable Jon W. McKinney, Commissioner, West Virginia Public Service Commission
 The Honorable Ryan B. Palmer, Commissioner, West Virginia Public Service Commission
 The Honorable Jeffrey V. Kessler, President, West Virginia Senate
 The Honorable John R. Unger, II, Majority Leader, West Virginia Senate
 The Honorable Timothy R. Miley, Speaker, West Virginia House of Delegates
 The Honorable Harry Keith White, Majority Leader, West Virginia House of Delegates
 The Honorable Herb Snyder, Chair, Senate Committee on Government Organization
 The Honorable Jim Morgan, Chair, House Committee on Government Organization
 The Honorable Ron Stollings, Chair, Senate Committee on Health and Human Resources
 The Honorable Don Perdue, Chair, House Committee on Health and Human Resources
 The Honorable Karen Bowling, Cabinet Secretary, Department of Health & Human Resources
 The Honorable Randy Huffman, Cabinet Secretary, Department of Environmental Protection
 Dr. Letitia E. Tierney, Commissioner, West Virginia Bureau for Public Health
 The Honorable W. Kent Carper, President, Kanawha County Commission
 Ms. Jennifer Sayre, County Manager, Kanawha County Commission



**BEFORE THE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
U.S. HOUSE OF REPRESENTATIVES**

MARCH 10, 2014

**Comments of D. Michael Langford
National President
Utility Workers Union of America, AFL-CIO**

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**Comments of D. Michael Langford, National President
Utility Workers Union of America, AFL-CIO**

I wish to thank the members of the Subcommittee on Water Resources and Environment for giving the public this opportunity to submit comments on the recent water crisis in West Virginia caused by the spill of chemical contaminants into the Elk River on January 9, 2014.

The Utility Workers Union of America represents working men and women in the utility industry across the U.S., including 2,500 employees of American Water in West Virginia and in ten other states. The UWUA represents approximately 60 employees of West Virginia-American Water ("WVAWC"), the Company's West Virginia subsidiary, in the Huntington and "Northern" Districts.

The Huntington District – the Company's second largest district in the State – provides service to customers served through roughly 33,000 meters, including in the cities of Huntington and Barboursville. The Northern District provides service to roughly 6,300 customers, including those residing in the communities of Weston, Webster Springs, Gassaway, and Sutton.

Our members are involved in all aspects of the process of providing water service to customers, including ensuring water quality and proper filtering, operating and maintaining distribution facilities, reading meters, and collecting bills from customers. We also handle both the installation of new services and disconnections.

The UWUA does not represent WVAWC employees in the Company's Kanawha Valley District centered in Charleston, which was directly impacted by the Elk River spill. However, through our active participation over many years in WVAWC proceedings before the West Virginia Public Service Commission, we have both provided and obtained significant information about the status of Company operations. Our union has an informed perspective concerning ongoing problems with insufficient staffing and its impact on the maintenance of the Company's aging infrastructure.

We believe the UWUA's experience in this area enables us to provide the Committee with a unique perspective into whether documented deficiencies in West Virginia American's physical and human infrastructure may have compounded the problems experienced by the Company in the wake of the Elk River spill.

Elk River Chemical Spill

The basic facts concerning the Elk River spill are well known. During the morning of January 9, 2014, approximately 10,000 gallons of toxic chemicals used to treat coal leaked from storage tanks owned by Freedom Industries in Charleston, W.Va. The chemicals flowed into the Elk River about a mile-and-a-half upstream of West Virginia American's water treatment plant. At approximately 5:00 p.m. that day, WVAWC and state officials issued a "Do Not Use" order to all customers in its Kanawha Valley system.

The “Do Not Use” order meant that 300,000 people in nine West Virginia counties could not drink, bathe, or cook with their tap water or use it for any purpose other than toilet flushing. This water use ban continued for more than a week for many customers.

In addition, approximately 1,500 West Virginians reportedly sought medical treatment after being exposed to the contaminated water, including for symptoms such as skin and eye irritation, vomiting, and diarrhea.

On February 5 – more than two weeks after the last “Do Not Use” order was lifted and scheduled “flushing” of the contaminant from WVAWC’s distribution system had begun – two Charleston-area schools closed early after students and staff reported strong chemical fumes during re-flushing of the schools’ water systems. A high school teacher who fainted and at least one student were transported to a local hospital during the incident, while other students complained of dizziness, burning eyes, and other symptoms. Five other West Virginia schools were closed the previous week while their water systems were re-flushed after the distinctive licorice odor of this chemical contaminant was detected.

On March 3, WVAWC announced that it has concluded its systematic flushing operations in the Kanawha Valley. The Company states it “will continue to respond to customer reports of lingering odor,” but that any remaining odor in the tap water is not a health concern.

WVAWC’s History of Understaffing and Related Impacts on System Maintenance

In recent years, the UWUA has raised concerns at proceedings before the Public Service Commission about understaffing at the Company and its impact on the ability to operate and maintain distribution facilities. UWUA members have testified from first-hand experience about the need for substantial upgrades to WVAWC’s infrastructure and the impact of continuing manpower shortages on the ability of the workforce to operate and maintain aging mains and other facilities.

We are not alone in voicing these concerns. The Commission itself expressed frustration in late 2011 over American Water’s emphasis on investing in new accounting software rather than on distribution system upgrades, and noted in an order issued as part of a general investigation of the Company that “neglecting distribution system infrastructure spending over time is shortsighted and not in the best interest of WVAWC or its customers.”

The Commission’s admonition was in response to efforts by the Company during 2011 to lay off 10% of its workforce statewide. The Company imposed the layoffs shortly after American Water CEO Jeffry Sterba publicly criticized a 4.4% rate increase granted by the West Virginia PSC as too low and threatened “operating cost reductions” in the state.

The UWUA challenged the layoffs by filing a complaint with the Commission seeking an injunction and an investigation. In an October 2011 order, the Commission permitted some of the proposed reductions, but ordered the Company to maintain minimum staffing levels to address concerns about the Company’s service quality. More than two years later at the end of 2013,

WVAWC was still operating with only 283 employees, six short of the minimum complement of 289 positions ordered by the Commission.

We believe the current field staff lacks the personnel needed to perform many basic and daily maintenance tasks, such as leak surveys and valve maintenance, and is limited to addressing emergencies. The inability to perform basic maintenance tasks is reflected in certain of the quarterly performance metrics that the Company was directed to file by the Commission as part of the relief granted in the layoff proceeding.

For example, in a recent review of WVAWC's "quarterly metrics report" for the third quarter of 2013, the Commission's Engineering Division highlighted concerns about the Company's leaky pipes, noting that so-called "unaccounted for water" ("UFW") was well above the Commission's acceptable figure of 15%, including nearly 38% for the Kanawha Valley District in both May and June of 2013. The PSC Staff also expressed concerns about the number of leak repairs and the failure to meet valve inspection targets.

The Fourth Quarter 2013 data recently released by WVAWC shows little or no improvement, with a nearly 37% "unaccounted for water" rate for December 2013. Indeed, the Company's Kanawha Valley District has consistently reported excessively high leak rates, with monthly UFW rates ranging between nearly 33% and 38% over the past two years.

WVAWC Infrastructure Concerns in Relation to Elk River Spill

The UWUA does not know – and takes no position on – whether these documented deficiencies in West Virginia-American Water's physical and human infrastructure may have compounded the problems faced by the Company in the wake of the Elk River chemical spill. We are persuaded, however, that these infrastructure concerns raise significant questions that warrant examination by federal and state officials.

Potential for ground contamination

For example, one immediate concern raised by the state PSC data is that the excessively high leak rate in West Virginia American's distribution system indicates that a significant amount of the contaminated water pumped through the system will have leaked into the ground. The UWUA does not know whether this presents a public health concern, but believes that this issue should be reviewed.

We recently raised this concern with state officials. In a response dated February 14, Dr. Letitia E. Tierney, the Commissioner of the West Virginia Bureau for Public Health recommended that unaccounted for water should fall within the state PSC's acceptable figure, but otherwise deferred our concern to the Bureau's "federal partners." In her response, Dr. Tierney offered to "forward the question as to whether there is cause for concern for treated water that may have leaked into the ground," and to "communicate with all parties once we receive an answer from our partners."

WVAWC President Jeffrey McIntyre also responded to the concern raised by our letter, but stated merely that “the present emergency response efforts” following the Elk River chemical spill “have no bearing on the quarterly operational reports that the Company was directed to submit for the past two years.” Mr. McIntyre failed to explain why this is so, and moreover did not dispute our observation that the high leak rate in the Company’s Kanawha Valley distribution system may have resulted in a significant amount of contaminated water leaking into the ground.

WVAWC’s inability to temporarily close its treatment plant

Questions have also been raised whether West Virginia American could have shut down its treatment plant after learning about the chemical spill to allow the chemical plume to pass down the river without contaminating the system. Some downstream Ohio River communities, including Ashland, Kentucky and Cincinnati, Ohio, temporarily closed their intake valves while the plume passed as a precautionary measure.

Mike Dorsey, Director of Homeland Security and Emergency Response for the West Virginia Department of Environmental Protection, raised this issue in his statement before the Subcommittee on February 10:

“Finally, the inability of the West Virginia American Water Company to shut down its system to let the pollution pass, presented a challenge that was unforeseen by those responding to the spill. That is an issue for someone other than me to address; but, it certainly compounded the problem.”

For his part, WVAWC President McIntyre testified before the Subcommittee that at the time of the spill the Company’s system storage was low and getting lower – due to line breaks and other factors associated with the recent extreme cold weather – even though the plant was running at near full capacity. According to the Company, “shutting down the plant would quickly result in the loss of the entire distribution system,” resulting in the loss of fire protection and basic sanitation (*i.e.*, toilet flushing) for WVAWC customers.

The Company contends that loss of the system would also have required a substantially longer time to disinfect, flush, and then refill and re-pressurize the entire system. As a result, the Company decided instead to issue the “Do Not Use” order and to continue pumping the contaminated water through the system.

While the UWUA has no reason to dispute the Company’s explanation for its inability to shut down the treatment plant, we believe that a question remains as to whether the deficiencies in WVAWC’s distribution infrastructure have diminished its ability to store water reserves for any appreciable length of time. We do not know whether a more efficient, properly maintained distribution system would have increased the Company’s water reserves sufficiently to allow it to avoid the extraordinary water crisis following the Elk River chemical spill.

Even if not, however, it seems obvious that a water utility system that leaks up to 38% of its treated water – more than double the state PSC’s recommended acceptable rate – is operating at a significant disadvantage in its ability to store water for use in the event of a sudden interruption

in its water supply. We believe this is a question that also should be examined by regulators and policy-makers considering the best ways to avoid similar water emergencies in the future.

Customer flushing guidelines

Finally, questions have been raised about WVAWC's rejection of a recommendation by the U.S. Agency for Toxic Substances and Disease Registry to the state Department of Health on January 10 that customers should flush their water pipes until they no longer smelled the licorice odor associated with the chemical. The ATSDR communication stated that it did not anticipate any adverse health effects from the levels being detected in the water, and based its recommendation on concerns about lingering odors. Many customers have complained about a licorice odor in their tap water even days after following the Company's flushing guidelines.

Although WVAWC did not learn about the ATSDR recommendation until more than a week after it was issued to the health department, Company representatives have stated that it would not have changed the Company's flushing guidelines for consumers. According to a WVAWC statement reported in the news media on January 20, "simply flushing until no odor is detected is not based upon the CDC's health recommendation and would have been an irresponsible instruction, as this excessive action would have emptied the water system and caused customers to go without water that was already determined to be under the health protective threshold for an indefinite amount of time."¹

The same day, WVAWC President McIntyre stated to the news media that the ATSDR recommendation was "inappropriate" and could deplete the Company's water supply, and that any lingering odor in the water was merely an "aesthetic issue."²

Even assuming that a chemical odor in customers' tap water is only an aesthetic and not a health issue, odor is nevertheless a legitimate concern for consumers.³ Once again, we cannot know for certain whether the excessive leaks in WVAWC's water system might have impacted the system's ability to handle more extensive flushing by customers, but it seems obvious that a more efficient water distribution system would create more capacity to do so.

Conclusion

The UWUA has long advocated for improvements in West Virginia-American Water's physical and human infrastructure, and has urged that the failure to invest in substantial upgrades to both is detrimental to system reliability, employee safety, and cost efficiency.

¹ "Use of water 'your decision,' Tomblin says," *Charleston Gazette*, Jan. 20, 2014.

² "Water company: No plans to move intake upstream," *Charleston Gazette*, Jan. 20, 2014.

³ WVAWC has also recognized that odor is a legitimate customer concern, for example by announcing on February 20 that it would continue to flush its distribution system to help address odor issues. On March 3, the Company announced that its testing indicated a "non-detectable" level of the chemical throughout its system, and that its systematic flushing operations of water mains in the Kanawha Valley system had been concluded.

As summarized above, we also believe that recent events in West Virginia raise concerns whether the extensive leakage in the Company's water distribution system in the Kanawha Valley may have compounded the problems faced by American Water management in responding to the Freedom Industries chemical spill into the Elk River.

At the very least, we urge policy-makers and regulators charged with investigating this event and crafting going-forward recommendations to review these questions and to consider how best to address significant deficiencies that exist in our nation's water utility infrastructure, not only at WVAWC but also at other public and private water utilities across the U.S.

Thank you again for this opportunity to offer our comments to the members of the Subcommittee.

U.S. House of Representatives Committee on Transportation and Infrastructure
 "The Charleston, West Virginia Chemical Spill"
 Field Hearing, Charleston, WV, 2/10/14
 Maya Nye, Comments

Chairman Shuster, Congressman Rahall, Congresswoman Capito,

My name is Maya Nye and I am the spokesperson for People Concerned About Chemical Safety. I was born and raised in St. Albans about one and a half miles away from what is now the Bayer CropScience chemical plant in Institute, WV. My father spent his entire career working for Union Carbide. My mother worked there for a while, my step father worked there, and as a poor college student, I worked there to help pay my way through school. Chemical spills are anything but new to me much like water contamination is anything but new to the people of the coalfields and fracking fields of West Virginia. I vaguely remember the release eight months after the Bhopal disaster that sent over 130 people to the hospital including my friends Pam Nixon and Rae Ferguson. I was eight years old at the time. The first release I remember vividly was when I was 16 and a pesticide unit exploded killing two workers and sending a rush of toxic chemicals into my house. That same unit exploded fifteen years later killing two workers and nearly eclipsing another Bhopal disaster according to the Congressional hearing. So while I have been through many shelters-in-place and chemical releases in my life, I have never seen a release devastate as many people as the Freedom Industries Elk River spill has.

When the incident first happened, my dear friend called me panicked because she hadn't heard about the leak until after it had already entered the drinking water supply and she had just bathed her twin daughters. She was worried about the immediate and long term health effects of the chemical she had just unknowingly exposed her children to.

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The messages we have received about the safety of our drinking water have been mixed at best. First it was 2,000 gallons released then 5,000, then 7,500, then 10,000. The image of the lifting of the ban was much different than the reality. It was after the ban had lifted that many people I know and care about got sick. Some extremely so. Only after the ban had been lifted did pregnant women find out that the ban had not been lifted for them or for their young children. Now on Day 33 into this ongoing water crisis and the ban has not yet been lifted for pregnant women and young children. As a woman of child bearing age, I am afraid to drink or use the water until it is safe for everyone. When I called on day 2 to inquire about water testing, I was told that the proper tests had not yet been developed and that it would still be a number of days until it was complete. Having only the company's testing to refer to for toxicological impacts, not many people I know feel reassured that adequate testing has been done to determine the actual immediate and long term public health risk. Governmental testing has been conducted at fire hydrants rather than inside the homes. Children and workers were sent home from multiple schools after being made ill from exposure. Every day since the incident occurred seems to bring a new piece of unsettling news. Our local economies have been devastated and a trust has been broken that will take years to repair.

So how do we get out of this mess?

We need peer-reviewed scientific evidence to measure the accuracy of flushing protocols. We need peer-reviewed scientific evidence to tell us what the long-term health effects will be. We needed medical monitoring 70 years ago when the facilities nestled

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themselves into our community. We need to continue water distribution to continue until zero ppb of the chemical is found in the drinking water system.

The United States Chemical Safety Board has been to our beloved Chemical Valley now three times in the last five years. After the 2008 Bayer explosion, the US Chemical Safety Board made recommendations to implement a model similar to the Industrial Safety Ordinance in Contra Costa County, California that has significantly reduced the number and severity of incidents in their community. After yet another leak killed a worker at the DuPont facility, the CSB once again made the recommendation. Dr. Gupta, director of the Kanawha/Charleston Health Department has taken initiative multiple times to implement this program yet his efforts seem to have fallen on none but deaf ears.

While water intake systems should be high on the priority list of protective measures put in place as a result of this unnecessary and preventable disaster, I believe that we will be short-sighting ourselves if we stop there. We need to insist that companies, like Freedom, invest in updating their aging infrastructure in order to protect not only our water intakes, but also to protect workers, other community members, and a once thriving and vibrant local economy. We need to mandate the implementation of inherently safer technologies and reduce stockpiles in order to minimize the terrorist threat these manufacturing and storage facilities pose in our community. We need to take a good, hard look at chemical safety from cradle to grave by reviewing manufacturing in communities like mine, to transportation of chemicals through neighborhoods and major cities like Washington, DC, to application and waste disposal in communities like the coal and fracking fields.

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Above all, to address this crisis, we need a serious commitment from our representatives that they will take a comprehensive and systematic approach to addressing the root causes of this incident and not put special interest before the people who voted them into office. Putting a band aid on the issue will only land us back to another major disaster. Once again, we hope that our misfortune will help communities across the country to prevent incidents like this from ever happening again.

Respectfully submitted,

Maya Nye, Spokesperson

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